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=> d his ful

     (FILE 'HOME' ENTERED AT 16:58:33 ON 03 MAR 2006)

     FILE 'REGISTRY' ENTERED AT 16:58:52 ON 03 MAR 2006
L1          3266 SEA ABB=ON  PLU=ON  POLYAMINE OR METHANEDIAMINE OR ISOPHORONEDI
                 AMINE OR DIAMINODICYCLOHEXYLMETHANE OR 'BIS(4-AMINO-3-METHYLCYC
                 LOHEXYL)METHANE'?/CN OR AMINOMETHYLCYCLOHEXYLMETHANE OR
                 AMINOMETHYLPIPERAZINE
L2            19 SEA ABB=ON  PLU=ON  NORBORNANEDIAMINE OR POLYCYCLOHEXYLPOLYAMIN
                 E OR POLYCYCLOHEXYL POLYAMINE/CN OR 'BIS(AMINOMETHYL)TRICYCLO'?
                 /CN OR AMINOMETHYLTRICYCLO?
L3        241442 SEA ABB=ON  PLU=ON  ETHYLENE OR PROPYLENE OR BUTENE
L4        271693 SEA ABB=ON  PLU=ON  BUTADIENE OR PENTENE OR HEXENE OR HEPTENE
                 OR OCTENE OR NONENE OR DECENE OR ISOBUTYLENE OR CYCLOHEXENE OR
                 CYCLOHEXADIENE OR STYRENE OR DIVINYLBENZENE

     FILE 'HCAPLUS' ENTERED AT 17:15:01 ON 03 MAR 2006
L5          71335 SEA ABB=ON  PLU=ON  L1 OR POLYAMINE OR METHANEDIAMINE OR
                 ISOPHORONEDIAMINE OR DIAMINODICYCLOHEXYLMETHANE OR 4(W)AMINO(W)
                 3(W)METHYLCYCLOHEXYL(W)METHANE OR AMINOMETHYLCYCLOHEXYLMETHANE
                 OR AMINOMETHYLPIPERAZINE
L6            166 SEA ABB=ON  PLU=ON  L2 OR NORBORNANEDIAMINE OR POLYCYCLOHEXYLPO
                 LYAMINE OR AMINOMETHYL(W)TRICYCLO OR AMINOMETHYLTRICYCLO?
L7        2044089 SEA ABB=ON  PLU=ON  L3 OR ETHYLENE OR PROPYLENE OR BUTENE
L8         922588 SEA ABB=ON  PLU=ON  L4 OR BUTADIENE OR PENTENE OR HEXENE OR
                 HEPTENE OR OCTENE OR NONENE OR DECENE OR ISOBUTYLENE OR
                 CYCLOHEXENE OR CYCLOHEXADIENE OR STYRENE OR DIVINYLBENZENE
L9          36212 SEA ABB=ON  PLU=ON  (L5 OR L6) AND (L7 OR L8)
L10           321 SEA ABB=ON  PLU=ON  L9 AND ADDITION(2A)REACTION
L11            31 SEA ABB=ON  PLU=ON  ("CURING AGENTS"/CV OR "CROSSLINKING
                 AGENTS"/CV OR "VULCANIZATION ACCELERATORS AND AGENTS"/CV) AND
                 L10
L12            44 SEA ABB=ON  PLU=ON  L10 AND (CURING OR VULCANIZ? OR CROSSLINK?)
                 (L)AGENT
L13            44 SEA ABB=ON  PLU=ON  L11 OR L12


     FILE 'REGISTRY' ENTERED AT 17:23:46 ON 03 MAR 2006
L14           742 SEA ABB=ON  PLU=ON  EPOXY(L)RESIN

     FILE 'HCAPLUS' ENTERED AT 17:24:57 ON 03 MAR 2006
L15        174397 SEA ABB=ON  PLU=ON  L14 OR EPOXY(5A)RESIN
L16            23 SEA ABB=ON  PLU=ON  L13 AND L15
                  D STAT QUE
                  D IBIB ABS HITSTR L16 1-23
L17         10687 SEA ABB=ON  PLU=ON  (L5 OR L6)(L)PREP/RL
L18        465888 SEA ABB=ON  PLU=ON  (L7 OR L8)(L)REACTANT/RL
L19          1942 SEA ABB=ON  PLU=ON  L17 AND L18
L20        129007 SEA ABB=ON  PLU=ON  L15(L)USES/RL
L21           119 SEA ABB=ON  PLU=ON  L19 AND L20
L22            78 SEA ABB=ON  PLU=ON  L21 AND PD=<SEPTEMBER 25, 2003
L23            77 SEA ABB=ON  PLU=ON  L22 NOT L13
L24            11 SEA ABB=ON  PLU=ON  L23 AND CYCLO?
                  D STAT QUE
                  D IBIB ABS HITSTR L24 1-11
L25             1 SEA ABB=ON  PLU=ON  (L23 AND ADDITION(2A)REACTION) NOT (L13 OR
                 L24)
                  D STAT QUE
                  D IBIB ABS HITSTR L25 1
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FILE HOME

FILE REGISTRY
Property values tagged with IC are from the ZIC/VINITI data file provided by InfoChem.

STRUCTURE FILE UPDATES: 2 MAR 2006 HIGHEST RN 875740-40-2
DICTIONARY FILE UPDATES: 2 MAR 2006 HIGHEST RN 875740-40-2

New CAS Information Use Policies, enter HELP USAGETERMS for details.

TSCA INFORMATION NOW CURRENT THROUGH January 6, 2006

Please note that search-term pricing does apply when conducting SmartSELECT searches.

****
* *
* The CA roles and document type information have been removed from *
* the IDE default display format and the ED field has been added, *
* effective March 20, 2005. A new display format, IDERL, is now *
* available and contains the CA role and document type information. *
* *
****

Structure search iteration limits have been increased. See HELP SLIMITS for details.

REGISTRY includes numerically searchable data for experimental and predicted properties as well as tags indicating availability of experimental property data in the original document. For information on property searching in REGISTRY, refer to:

http://www.cas.org/ONLINE/UG/regprops.html

FILE HCAPLUS

FILE COVERS 1907 - 3 Mar 2006 VOL 144 ISS 11
FILE LAST UPDATED: 2 Mar 2006 (20060302/ED)

New CAS Information Use Policies, enter HELP USAGETERMS for details.

This file contains CAS Registry Numbers for easy and accurate substance identification.

=>

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=> fil hcaplus
FILE 'HCAPLUS' ENTERED AT 17:24:57 ON 03 MAR 2006
USE IS SUBJECT TO THE TERMS OF YOUR STN CUSTOMER AGREEMENT.
PLEASE SEE "HELP USAGETERMS" FOR DETAILS.
COPYRIGHT (C) 2006 AMERICAN CHEMICAL SOCIETY (ACS)
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FILE COVERS 1907 - 3 Mar 2006  VOL 144 ISS 11
FILE LAST UPDATED: 2 Mar 2006  (20060302/ED)

New CAS Information Use Policies, enter HELP USAGETERMS for details.

 This file contains CAS Registry Numbers for easy and accurate
 substance identification.

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=> d stat que
L1          3266 SEA FILE=REGISTRY ABB=ON  PLU=ON  POLYAMINE OR METHANEDIAMINE
                 OR ISOPHORONEDIAMINE OR DIAMINODICYCLOHEXYLMETHANE OR 'BIS(4-AM
                 INO-3-METHYLCYCLOHEXYL)METHANE'?/CN OR AMINOMETHYLCYCLOHEXYLMET
                 HANE OR AMINOMETHYLPIPERAZINE
L2            19 SEA FILE=REGISTRY ABB=ON  PLU=ON  NORBORNANEDIAMINE OR
                 POLYCYCLOHEXYLPOLYAMINE OR POLYCYCLOHEXYL POLYAMINE/CN OR
                 'BIS(AMINOMETHYL)TRICYCLO'?/CN OR AMINOMETHYLTRICYCLO?
L3        241442 SEA FILE=REGISTRY ABB=ON  PLU=ON  ETHYLENE OR PROPYLENE OR
                 BUTENE
L4        271693 SEA FILE=REGISTRY ABB=ON  PLU=ON  BUTADIENE OR PENTENE OR
                 HEXENE OR HEPTENE OR OCTENE OR NONENE OR DECENE OR ISOBUTYLENE
                 OR CYCLOHEXENE OR CYCLOHEXADIENE OR STYRENE OR DIVINYLBENZENE
L5         71335 SEA FILE=HCAPLUS ABB=ON  PLU=ON  L1 OR POLYAMINE OR METHANEDIAM
                 INE OR ISOPHORONEDIAMINE OR DIAMINODICYCLOHEXYLMETHANE OR
                 4(W)AMINO(W)3(W)METHYLCYCLOHEXYL(W)METHANE OR AMINOMETHYLCYCLOH
                 EXYLMETHANE OR AMINOMETHYLPIPERAZINE
L6           166 SEA FILE=HCAPLUS ABB=ON  PLU=ON  L2 OR NORBORNANEDIAMINE OR
                 POLYCYCLOHEXYLPOLYAMINE OR AMINOMETHYL(W)TRICYCLO OR AMINOMETHY
                 LTRICYCLO?
L7       2044089 SEA FILE=HCAPLUS ABB=ON  PLU=ON  L3 OR ETHYLENE OR PROPYLENE
                 OR BUTENE
L8        922588 SEA FILE=HCAPLUS ABB=ON  PLU=ON  L4 OR BUTADIENE OR PENTENE OR
                 HEXENE OR HEPTENE OR OCTENE OR NONENE OR DECENE OR ISOBUTYLENE
                 OR CYCLOHEXENE OR CYCLOHEXADIENE OR STYRENE OR DIVINYLBENZENE
L9         36212 SEA FILE=HCAPLUS ABB=ON  PLU=ON  (L5 OR L6) AND (L7 OR L8)
L10          321 SEA FILE=HCAPLUS ABB=ON  PLU=ON  L9 AND ADDITION(2A)REACTION
L11           31 SEA FILE=HCAPLUS ABB=ON  PLU=ON  ("CURING AGENTS"/CV OR
                 "CROSSLINKING AGENTS"/CV OR "VULCANIZATION ACCELERATORS AND
                 AGENTS"/CV) AND L10
L12           44 SEA FILE=HCAPLUS ABB=ON  PLU=ON  L10 AND (CURING OR VULCANIZ?
                 OR CROSSLINK?)(L)AGENT
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L13          44 SEA FILE=HCAPLUS ABB=ON  PLU=ON  L11 OR L12
L14         742 SEA FILE=REGISTRY ABB=ON  PLU=ON  EPOXY(L)RESIN
L15      174397 SEA FILE=HCAPLUS ABB=ON  PLU=ON  L14 OR EPOXY(5A)RESIN
L16          23 SEA FILE=HCAPLUS ABB=ON  PLU=ON  L13 AND L15


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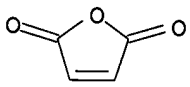
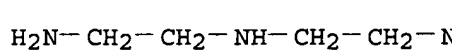
=> d ibib abs hitstr l16 1-23

L16  ANSWER 1 OF 23  HCAPLUS  COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER:         2006:68547  HCAPLUS
DOCUMENT NUMBER:          144:171831
TITLE:                    Method for preparing low molecular weight polyamide
                          from tung oil
INVENTOR(S):              Xia, Jianling; Wang, Dingxuan; Nie, Xiaoan; Yang,
                          Xiaohua
PATENT ASSIGNEE(S):       Institute of Chemical Industry of Forest Products,
                          Chinese Academy of Forestry, Peop. Rep. China
SOURCE:                   Faming Zhuanli Shenqing Gongkai Shuomingshu, 11 pp.
                          CODEN: CNXXEV
DOCUMENT TYPE:            Patent
LANGUAGE:                 Chinese
FAMILY ACC. NUM. COUNT:   1
PATENT INFORMATION:

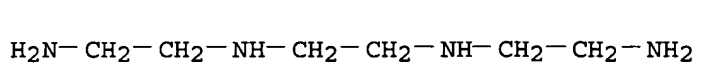
     PATENT NO.           KIND   DATE        APPLICATION NO.         DATE
     ---------------      ----   --------    --------------------    --------
     CN 1631938            A     20050629    CN 2004-10065369        20041129
PRIORITY APPLN. INFO.:                       CN 2004-10065369        20041129
AB   The invention relates to a method for preparing low mol. weight polyamide,
which
     is a curing agent of epoxy resin,
     from tung oil.  The method comprises carrying out transesterification
     reaction of tung oil and methanol in the presence of inorg. base or Lewis
     acid catalyst in an amount of 0.1-5 wt% of tung oil to obtain Me ester,
     carrying out the addition reaction of the Me ester and
     unsatd. dibasic acid (anhydride) catalyzed by a Lewis acid to obtain an
     adduct, carrying out the amidation reaction of the addn
     . product with a polybasic amine at 150-230°C, distilling off the
     unreacted substances under reduced pressure to obtain the final product.
     The method is environmental friendly with low energy consumption, and the
     cured epoxy resin using the product in the invention
     has good thermal resistance and mech. strength.
IT   108-31-6DP, Maleic anhydride, reaction product with Me ester of
     tung oil, and polyamines 111-40-0DP,
     Diethylenetriamine, reaction product with maleated Me ester of tung oil
     112-24-3DP, reaction product with maleated Me ester of tung oil
     RL: IMF (Industrial manufacture); PRP (Properties); PREP (Preparation)
        (method for preparing low mol. weight polyamide from tung oil)
RN   108-31-6  HCAPLUS
CN   2,5-Furandione (9CI)  (CA INDEX NAME)
```



RN 111-40-0 HCAPLUS
CN 1,2-Ethanediamine, N-(2-aminoethyl)- (9CI) (CA INDEX NAME)



RN 112-24-3 HCAPLUS
CN 1,2-Ethanediamine, N,N'-bis(2-aminoethyl)- (9CI) (CA INDEX NAME)

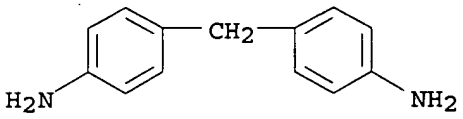


L16 ANSWER 2 OF 23 HCAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 2005:1258818 HCAPLUS
DOCUMENT NUMBER: 144:129704
TITLE: Flame-retardant **epoxy resins** with high glass-transition temperatures. II. Using a novel hexafunctional **curing agent**: 9,10-dihydro-9-oxa-10-phosphaphenanthrene 10-yl-tris(4-aminophenyl) methane
AUTHOR(S): Lin, Ching Hsuan; Cai, Sheng Xiong; Lin, Chun Hung
CORPORATE SOURCE: Department of Chemical Engineering, National Chung Hsing University, Taichung, Taiwan
SOURCE: Journal of Polymer Science, Part A: Polymer Chemistry (2005), 43(23), 5971-5986
CODEN: JPACEC; ISSN: 0887-624X
PUBLISHER: John Wiley & Sons, Inc.
DOCUMENT TYPE: Journal
LANGUAGE: English

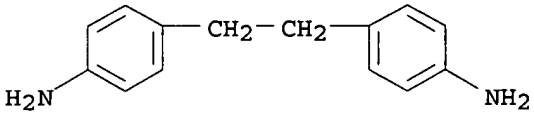
AB We synthesized a novel phosphorus-containing triamine [9,10-dihydro-9-oxa-10-phosphaphenanthrene 10-yl-tris(4-aminophenyl) methane (dopo-ta)] from the nucleophilic addition of 9,10-dihydro-9-oxa-10-phosphaphenanthrene 10-oxide and pararosaniline chloride, using triethylamine as an acid receiver. We confirmed the structure of dopo-ta by IR, mass, and NMR spectra and elemental anal. Dopo-ta served as a **curing agent** for diglycidyl ether of bisphenol A (DGEBA) and dicyclopentadiene epoxy (hp 7200). Properties such as the glass-transition temperature (Tg), thermal decomposition temperature, flame retardancy, moisture absorption, and dielec. properties of the cured **epoxy resins** were evaluated. The Tg's of cured DGEBA/dopo-ta and hp 7200/dopo-ta were 171° and 190°, resp. This high Tg phenomenon is rarely seen in the literature after the introduction of a flame-retardant element. The flame retardancy increased with the phosphorus content, and a UL-94 V-0 grade was achieved with a phosphorus content of 1.80 wt% for DGEBA/dopo-ta/diaminodiphenylmethane (DDM) systems and 1.46 wt% for hp 7200/dopo-ta/DDM systems. The dielec. consts. for DGEBA/dopo-ta and hp 7200/dopo-ta were 2.91 and 2.82, resp., implying that the dopo-ta **curing** systems exhibited low dielec. properties.

IT **101-77-9**, Diaminodiphenylmethane **621-95-4**, 4,4'-Diaminodiphenylethane
RL: CPS (Chemical process); PEP (Physical, engineering or chemical process); RCT (Reactant); PROC (Process); RACT (Reactant or reagent)
(**curing agent**; preparation of flame-retardant **epoxy resins** with high glass-transition temps. by using phosphorus-containing triamine **curing agent**)

RN 101-77-9 HCAPLUS
CN Benzenamine, 4,4'-methylenebis- (9CI) (CA INDEX NAME)



RN 621-95-4 HCAPLUS
CN Benzenamine, 4,4'-(1,2-ethanediyl)bis- (9CI) (CA INDEX NAME)



REFERENCE COUNT: 34 THERE ARE 34 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L16 ANSWER 3 OF 23 HCAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 2005:587096 HCAPLUS
DOCUMENT NUMBER: 143:116172
TITLE: Manufacture of amino compositions with little residual **polyamines**
INVENTOR(S): Kuwahara, Hisamasa; Echigo, Masatoshi; Ogawa, Satoshi
PATENT ASSIGNEE(S): Mitsubishi Gas Chemical Co., Ltd., Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 15 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2005179203	A2	20050707	JP 2003-418940	20031217
PRIORITY APPLN. INFO.:			JP 2003-418940	20031217

OTHER SOURCE(S): MARPAT 143:116172

AB The manufacturing method contains **addition reaction** of hydrophilic **polyamines** with hydrophobic alkenyl compds. in the presence of strongly basic catalysts, extraction of residual hydrophilic **polyamines** with H2O to give amino compns. with contents of the residual **polyamines** ≤2%, and recovery of the residual **polyamines** by removal of H2O. The amino compns. by the method are useful for crosslinkers for **epoxy resins** and chain extenders for polyurethanes. Thus, reacting m-xylylenediamine (I) with **styrene** (II) in the presence of lithium amide (III), removing hydrolyzed III, extracting residual I with H2O gave a 52.7/41.7/4.0/1.6 mixture of I-II (1:1), I-II (1:2), I-II (1:3), and I.

IT **100-42-5DP**, **Styrene**, reaction product with MXDA or other amines **111-40-0DP**, Diethylenetriamine, reaction product with **styrene 62196-77-4DP**, NBDA, reaction products with **styrene**
RL: IMF (Industrial manufacture); PUR (Purification or recovery); PREP (Preparation)
(manufacture of amino compns. with little residual **polyamines**)

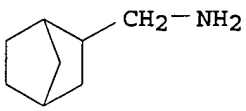
RN 100-42-5 HCAPLUS
CN Benzene, ethenyl- (9CI) (CA INDEX NAME)

$H_2C{=}CH{-}Ph$

RN 111-40-0 HCAPLUS
CN 1,2-Ethanediamine, N-(2-aminoethyl)- (9CI) (CA INDEX NAME)

$H_2N{-}CH_2{-}CH_2{-}NH{-}CH_2{-}CH_2{-}NH_2$

RN 62196-77-4 HCAPLUS
CN Bicyclo[2.2.1]heptane-2,?-dimethanamine (9CI) (CA INDEX NAME)

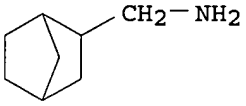


D1$-CH_2-NH_2$

IT **111-40-0P**, Diethylenetriamine **62196-77-4P**, NBDA
RL: PUR (Purification or recovery); RCT (Reactant); REM (Removal or disposal); PREP (Preparation); PROC (Process); RACT (Reactant or reagent)
(manufacture of amino compns. with little residual **polyamines**)
RN 111-40-0 HCAPLUS
CN 1,2-Ethanediamine, N-(2-aminoethyl)- (9CI) (CA INDEX NAME)

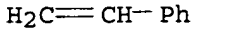
$H_2N{-}CH_2{-}CH_2{-}NH{-}CH_2{-}CH_2{-}NH_2$

RN 62196-77-4 HCAPLUS
CN Bicyclo[2.2.1]heptane-2,?-dimethanamine (9CI) (CA INDEX NAME)



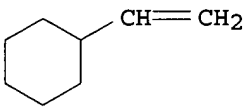
D1$-CH_2-NH_2$

IT **100-42-5**, **Styrene**, reactions **110-83-8**, **Cyclohexene**, reactions **695-12-5**, Vinylcyclohexane **1321-74-0**, **Divinylbenzene**, reactions **29797-09-9**, **Cyclohexadiene**
RL: RCT (Reactant); RACT (Reactant or reagent)
(manufacture of amino compns. with little residual **polyamines**)
RN 100-42-5 HCAPLUS
CN Benzene, ethenyl- (9CI) (CA INDEX NAME)

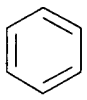


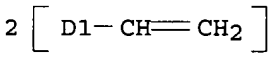
RN 110-83-8 HCAPLUS
CN Cyclohexene (8CI, 9CI) (CA INDEX NAME)

RN 695-12-5 HCAPLUS
CN Cyclohexane, ethenyl- (9CI) (CA INDEX NAME)



RN 1321-74-0 HCAPLUS
CN Benzene, diethenyl- (9CI) (CA INDEX NAME)





RN 29797-09-9 HCAPLUS
CN Cyclohexadiene (8CI, 9CI) (CA INDEX NAME)

CM 1

CRN 71-43-2
CMF C6 H6

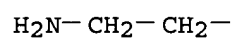
L16 ANSWER 4 OF 23 HCAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 2005:425295 HCAPLUS
DOCUMENT NUMBER: 144:151075
TITLE: Synthesis of a new type of **curing agent** of **epoxy resin**

AUTHOR(S): Ning, Chun-hua; Xu, Dong-mei; Zhang, Ke-da
CORPORATE SOURCE: Chemistry Science and Technology Department, Changshu College of Science and Engineering, Changshu, 215500, Peop. Rep. China
SOURCE: Zhongguo Jiaonianji (2005), 14(2), 41-43
CODEN: ZJIAEA; ISSN: 1004-2849
PUBLISHER: Zhongguo Jiaonianji Bianjibu
DOCUMENT TYPE: Journal
LANGUAGE: Chinese

AB A **polyamine** compound was synthesized from ethylenediamine and compound (I) with eight acrylic ester double bond, CH3OH as solvent and catalyst, by Michael **addition reaction.** The effect of reaction parameters, such as ratio of reactants, reaction temperature, reaction time and ratio of solvent were investigated. The compound regarding as **curing agent** of **epoxy resin** was studied in different **curing** time. It is found that **curing** speed becoming 3-60 times higher than ethylenediamine.

IT **107-15-3**, Ethylenediamine, reactions
RL: RCT (Reactant); RACT (Reactant or reagent)
(for synthesis of **epoxy resin curing agent**)

RN 107-15-3 HCAPLUS
CN 1,2-Ethanediamine (9CI) (CA INDEX NAME)



L16 ANSWER 5 OF 23 HCAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 2004:716156 HCAPLUS
DOCUMENT NUMBER: 141:226991
TITLE: Low-temperature curable **epoxy resin curing agent** and **epoxy resin** composition
INVENTOR(S): Kuwahara, Hisayuki; Echigo, Masatoshi; Koyama, Takeshi
PATENT ASSIGNEE(S): Mitsubishi Gas Chemical Company, Inc., Japan
SOURCE: Eur. Pat. Appl., 11 pp.
CODEN: EPXXDW
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

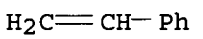
PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
EP 1452554	A1	20040901	EP 2004-3278	20040213
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, HU, SK				
US 2004171770	A1	20040902	US 2004-773277	20040209
JP 2004263177	A2	20040924	JP 2004-34825	20040212
CN 1521198	A	20040818	CN 2004-10004948	20040213
PRIORITY APPLN. INFO.:			JP 2003-35487 A	20030213

AB The **epoxy resin curing agent** capable of achieve a low viscosity without containing environmental harmful substances such as phenol and solvents, comprises a polyamino compound obtainable by **addition reaction** of a diamine NH2-CH2-A-CH2-NH2 (A is a phenylene group or a cyclohexylene group) and **styrene** and a **curing** accelerator comprising an organic compound having at least one carboxyl group and at least one hydroxyl group

within the mol. In addition, the **epoxy resin** composition using said **epoxy resin curing agent** shows an excellent curability at low temperature and it provides a cured coating film having excellent appearance.

IT **100-42-5D, Styrene**, reaction products with metaxylylenediamine **25068-38-6D**, reaction products with **isophoronediamine**
RL: CAT (Catalyst use); USES (Uses)
(low-temperature curable **epoxy resin curing agent** and **epoxy resin** composition)

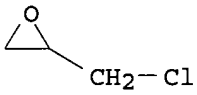
RN 100-42-5 HCAPLUS
CN Benzene, ethenyl- (9CI) (CA INDEX NAME)



RN 25068-38-6 HCAPLUS
CN Phenol, 4,4'-(1-methylethylidene)bis-, polymer with (chloromethyl)oxirane (9CI) (CA INDEX NAME)

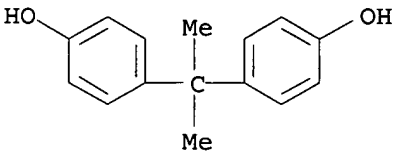
CM 1

CRN 106-89-8
CMF C3 H5 Cl O



CM 2

CRN 80-05-7
CMF C15 H16 O2



L16 ANSWER 6 OF 23 HCAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 2004:625854 HCAPLUS
DOCUMENT NUMBER: 141:157937
TITLE: Modified polyoxyalkylene **polyamine** with low viscosity as **curing agent** for **epoxy resin**
INVENTOR(S): Echigo, Masatoshi; Kuwahara, Hisayuki; Koyama, Takeshi
PATENT ASSIGNEE(S): Mitsubishi Gas Chemical Company, Inc., Japan
SOURCE: Eur. Pat. Appl., 12 pp.
CODEN: EPXXDW
DOCUMENT TYPE: Patent
LANGUAGE: English

FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

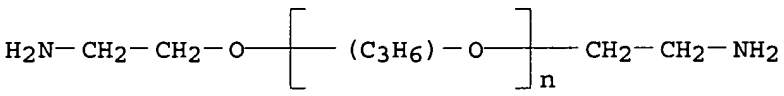
PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
EP 1443068	A1	20040804	EP 2004-1922	20040129
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, HU, SK				
JP 2004231869	A2	20040819	JP 2003-24250	20030131
US 2004210011	A1	20041021	US 2004-767170	20040130
PRIORITY APPLN. INFO.:			JP 2003-24250 A	20030131

AB The modified polyoxyalkylene **polyamine** is obtained by **addition reaction** of a polyoxyalkylene **polyamine** and an alkenyl group-containing compound The **epoxy resin** cured with the modified polyoxyalkylene **polyamine** has good chemical resistance. Thus, 100 parts Epicoat 828 (bisphenol A **epoxy resin**) was mixed 60 parts modified polyoxyalkylene **polyamine** obtained by reaction Jeffamine D 230 (polyoxypropylenediamine) with **styrene**, and cured at 23° and 50% RH to give a coating film showing good resistance to 10% sodium hydroxide, methanol and ethanol.

IT **929-59-9DP**, Jeffamine EDR 148, reaction products with **styrene 9046-10-0DP**, Jeffamine D 230, reaction products with **styrene**
RL: IMF (Industrial manufacture); RCT (Reactant); PREP (Preparation); RACT (Reactant or reagent)
(**curing agent**; modified polyoxyalkylene **polyamine** with low viscosity as **curing agent** for **epoxy resin**)

RN 929-59-9 HCAPLUS
CN Ethanamine, 2,2'-[1,2-ethanediylbis(oxy)]bis- (9CI) (CA INDEX NAME)

RN 9046-10-0 HCAPLUS
CN Poly[oxy(methyl-1,2-ethanediyl)], α-(2-aminomethylethyl)-ω-(2-aminomethylethoxy)- (9CI) (CA INDEX NAME)



2 (D1—Me)

IT **100-42-5DP**, **Styrene**, reaction products with polyoxyalkylene **polyamines**
RL: IMF (Industrial manufacture); RCT (Reactant); PREP (Preparation); RACT (Reactant or reagent)
(modified polyoxyalkylene **polyamine** with low viscosity as **curing agent** for **epoxy resin**)

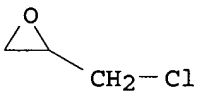
RN 100-42-5 HCAPLUS
CN Benzene, ethenyl- (9CI) (CA INDEX NAME)

$H_2C{=}CH{-}Ph$

IT **25068-38-6**
RL: POF (Polymer in formulation); TEM (Technical or engineered material use); USES (Uses)
(modified polyoxyalkylene **polyamine** with low viscosity as **curing agent** for **epoxy resin**)
RN 25068-38-6 HCAPLUS
CN Phenol, 4,4'-(1-methylethylidene)bis-, polymer with (chloromethyl)oxirane (9CI) (CA INDEX NAME)

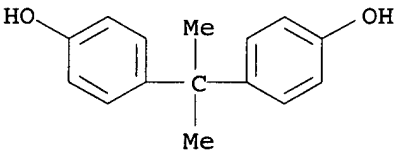
CM 1

CRN 106-89-8
CMF C3 H5 Cl O



CM 2

CRN 80-05-7
CMF C15 H16 O2



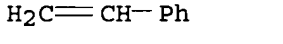
L16 ANSWER 7 OF 23 HCAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 2004:568700 HCAPLUS
DOCUMENT NUMBER: 141:107155
TITLE: Curable **epoxy resin** compositions with long pot life, reduced ammonia gas emission, and good curability
INVENTOR(S): Ando, Kazuhiko; Suzuki, Satoshi; Yamada, Shinsuke
PATENT ASSIGNEE(S): Asahi Denka Kogyo K. K., Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 14 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2004196945	A2	20040715	JP 2002-366918	20021218

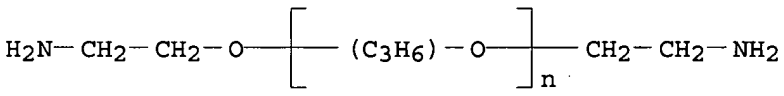
PRIORITY APPLN. INFO.: JP 2002-366918 20021218
AB The compns. contain (A) Mannich compds. prepared by reaction of **polyamines**, HCHO, and phenols and (B) R1N(B)CH2ACH2NR2R2 (A = phenylene, cyclohexylene; B = alkenyl compound derivative; R1-3 = H, alkenyl

compound derivative) prepared by **addition reaction** of diamines and alkenyl compds. Thus, equimolar m-xylylenediamine, phenol, and HCHO were allowed to react to give 97% Mannich compound, 35 parts of which was blended with Gaskamine 240 (diamine-**styrene** adduct) 5, m-xylylenediamine 7, Jeffamine D 230 (polyoxypropylenediamine) 13, phenol 7, p-dodecylphenol 9, Ancamine K 54 [2,4,6-tris(dimethylaminomethyl)phenol] 11, and benzyl alc. 13 parts to give a **curing agent.** A clear varnish comprising 100/40 Adeka **Resin** EP 4100 (liquid **epoxy resin**) and the **curing agent** was applied on a slate board and cured at 10° or 20° for 16 h to show no clouding by amine carbonate salts, good water resistance, and NH3 gas generation 0.04 ppm.

IT **100-42-5D**, **Styrene**, reaction products with diamines
RL: MOA (Modifier or additive use); RCT (Reactant); RACT (Reactant or reagent); USES (Uses)
(**crosslinking agent**; curable **epoxy resin** compns. with long pot life, reduced ammonia gas emission, and good curability)
RN 100-42-5 HCAPLUS
CN Benzene, ethenyl- (9CI) (CA INDEX NAME)



IT **9046-10-0**, Jeffamine D 230
RL: MOA (Modifier or additive use); USES (Uses)
(**crosslinking agents** containing; curable **epoxy resin** compns. with long pot life, reduced ammonia gas emission, and good curability)
RN 9046-10-0 HCAPLUS
CN Poly[oxy(methyl-1,2-ethanediyl)], α-(2-aminomethylethyl)-ω-(2-aminomethylethoxy)- (9CI) (CA INDEX NAME)

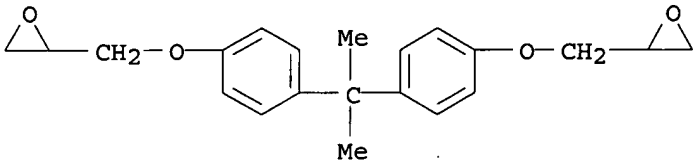


2 (D1—Me)

IT **25085-99-8**, Adeka **Resin** EP 4100
RL: POF (Polymer in formulation); PRP (Properties); RCT (Reactant); RACT (Reactant or reagent); USES (Uses)
(curable **epoxy resin** compns. with long pot life, reduced ammonia gas emission, and good curability)
RN 25085-99-8 HCAPLUS
CN Oxirane, 2,2'-[(1-methylethylidene)bis(4,1-phenyleneoxymethylene)]bis-, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 1675-54-3
CMF C21 H24 O4



L16 ANSWER 8 OF 23 HCAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 2004:525094 HCAPLUS
DOCUMENT NUMBER: 141:72370
TITLE: Modified linear aliphatic **polyamine** for curing **epoxy resin**
INVENTOR(S): Echigo, Masatoshi; Kuwahara, Hisayuki; Koyama, Takeshi
PATENT ASSIGNEE(S): Mitsubishi Gas Chemical Company, Inc., Japan
SOURCE: Eur. Pat. Appl., 21 pp.
CODEN: EPXXDW
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
EP 1433775	A2	20040630	EP 2003-29488	20031219
EP 1433775	A3	20040721		
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, HU, SK				
JP 2004250424	A2	20040909	JP 2003-118064	20030423
US 2004171791	A1	20040902	US 2003-739006	20031219
PRIORITY APPLN. INFO.:			JP 2002-377729 A	20021226
			JP 2003-118064 A	20030423

OTHER SOURCE(S): MARPAT 141:72370

AB A modified linear aliphatic **polyamine** obtained by **addition reaction** of a linear aliphatic **polyamine** having a specific structure and an unsatd. hydrocarbon compound has a low viscosity and it provides, when used as a **curing agent** for **epoxy resin**, an **epoxy resin** composition which can provide an **epoxy resin** cured product having an excellent properties such as chemical and water resistance. The unreacted **polyamine** in the modified product can be stripped prior to use. Thus, reacting diethylenetriamine with **styrene** in the presence of Li amide gave a modified **polyamine.**

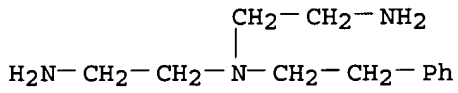
IT **16925-74-9P 76020-61-6P**
RL: IMF (Industrial manufacture); RCT (Reactant); PREP (Preparation); RACT (Reactant or reagent)
(**curing agents**; manufacture of alkene-modified chain aliphatic **polyamine** for **curing epoxy resin**)

RN 16925-74-9 HCAPLUS
CN 1,2-Ethanediamine, N-(2-aminoethyl)-N'-(2-phenylethyl)- (9CI) (CA INDEX NAME)

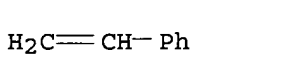
$H_2N-CH_2-CH_2-NH-CH_2-CH_2-NH-CH_2-CH_2-Ph$

RN 76020-61-6 HCAPLUS

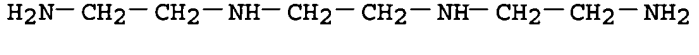
CN 1,2-Ethanediamine, N-(2-aminoethyl)-N-(2-phenylethyl)- (9CI) (CA INDEX NAME)



IT **100-42-5DP**, **Styrene**, reaction products with **polyamines 112-24-3DP**, Triethylenetetramine, reaction products with unsatd. compds.
RL: IMF (Industrial manufacture); RCT (Reactant); PREP (Preparation); RACT (Reactant or reagent)
(manufacture of alkene-modified chain aliphatic **polyamine** for curing **epoxy resin**)
RN 100-42-5 HCAPLUS
CN Benzene, ethenyl- (9CI) (CA INDEX NAME)



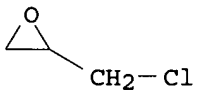
RN 112-24-3 HCAPLUS
CN 1,2-Ethanediamine, N,N'-bis(2-aminoethyl)- (9CI) (CA INDEX NAME)



IT **25068-38-6**, Epikote 828
RL: POF (Polymer in formulation); TEM (Technical or engineered material use); USES (Uses)
(manufacture of alkene-modified chain aliphatic **polyamine** for curing **epoxy resin**)
RN 25068-38-6 HCAPLUS
CN Phenol, 4,4'-(1-methylethylidene)bis-, polymer with (chloromethyl)oxirane (9CI) (CA INDEX NAME)

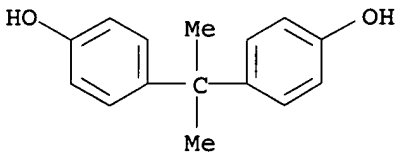
CM 1

CRN 106-89-8
CMF C3 H5 Cl O

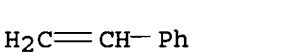


CM 2

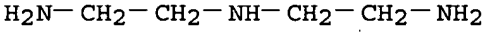
CRN 80-05-7
CMF C15 H16 O2



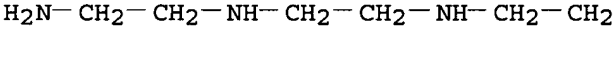
IT **100-42-5**, **Styrene**, reactions **111-40-0**, Diethylenetriamine **112-24-3**, Triethylenetetramine
RL: RCT (Reactant); RACT (Reactant or reagent)
(manufacture of alkene-modified chain aliphatic **polyamine** for curing **epoxy resin**)
RN 100-42-5 HCAPLUS
CN Benzene, ethenyl- (9CI) (CA INDEX NAME)



RN 111-40-0 HCAPLUS
CN 1,2-Ethanediamine, N-(2-aminoethyl)- (9CI) (CA INDEX NAME)



RN 112-24-3 HCAPLUS
CN 1,2-Ethanediamine, N,N'-bis(2-aminoethyl)- (9CI) (CA INDEX NAME)



L16 ANSWER 9 OF 23 HCAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 2004:261002 HCAPLUS
DOCUMENT NUMBER: 140:288916
TITLE: Modified cyclic aliphatic **polyamine**, **epoxy resin** composition, and cured product
INVENTOR(S): Koyama, Takeshi; Ichikawa, Tetsushi; Kuwahara, Hisayuki; Echigo, Masatoshi
PATENT ASSIGNEE(S): Mitsubishi Gas Chemical Company, Inc., Japan
SOURCE: Eur. Pat. Appl., 14 pp.
CODEN: EPXXDW
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
EP 1403244	A2	20040331	EP 2003-20588	20030918
EP 1403244	A3	20040804		
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, HU, SK				
JP 2004115427	A2	20040415	JP 2002-280556	20020926
JP 2004217560	A2	20040805	JP 2003-6126	20030114
US 2004106684	A1	20040603	US 2003-669701	20030925

PRIORITY APPLN. INFO.: JP 2002-280556 A 20020926
JP 2003-6126 A 20030114

AB A modified cyclic aliphatic **polyamine** has a low viscosity and content of unreacted **polyamine** and when used as a **curing agent** for an **epoxy resin** composition has an improved workability without adding solvent or diluent. The above modified cyclic aliphatic **polyamine** is obtained by **addition reaction** of a cyclic aliphatic **polyamine** such as **isophoronediamine** and **norbornanediamine** and an alkenyl compound such as **styrene.** The reaction of 4 mol **isophoronediamine** and 4 mol **styrene** gave a product (containing mono and di substituted diamine) which was used to cure an Epicoat 828 coating composition (48 phr cure **agent**) showing excellent water resistance (water drop test at 1/4/7 day intervals), chemical resistance (10% NaOH and H2SO4 solns. for 7 days at room temperature), and salt spray resistance (JIS K5400).

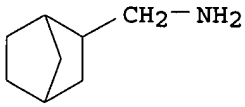
IT **100-42-5**, **Styrene**, reactions
RL: RCT (Reactant); RACT (Reactant or reagent)
(reaction with diamine; **styrene** modified cyclic aliphatic **polyamine** crosslinker for **epoxy resin** cured product and coating having improved water, chemical and corrosion resistance)

RN 100-42-5 HCAPLUS
CN Benzene, ethenyl- (9CI) (CA INDEX NAME)

$H_2C{=}CH{-}Ph$

IT **62196-77-4D**, **Norbornanediamine**, reaction products with **styrene**
RL: MOA (Modifier or additive use); USES (Uses)
(**styrene** modified cyclic aliphatic **polyamine** crosslinker for **epoxy resin** cured product and coating having improved water, chemical and corrosion resistance)

RN 62196-77-4 HCAPLUS
CN Bicyclo[2.2.1]heptane-2,?-dimethanamine (9CI) (CA INDEX NAME)



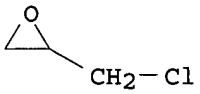
D1—CH_2—NH_2

IT **25068-38-6**
RL: POF (Polymer in formulation); PRP (Properties); TEM (Technical or engineered material use); USES (Uses)
(**styrene** modified cyclic aliphatic **polyamine** crosslinker for **epoxy resin** cured product and coating having improved water, chemical and corrosion resistance)

RN 25068-38-6 HCAPLUS
CN Phenol, 4,4'-(1-methylethylidene)bis-, polymer with (chloromethyl)oxirane (9CI) (CA INDEX NAME)

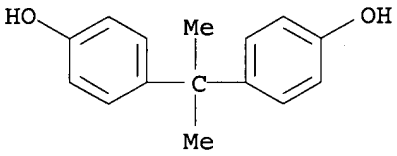
CM 1

CRN 106-89-8
CMF C3 H5 Cl O



CM 2

CRN 80-05-7
CMF C15 H16 O2



L16 ANSWER 10 OF 23 HCAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 2004:180090 HCAPLUS
DOCUMENT NUMBER: 140:200355
TITLE: Modified **polyamine** hardeners and **epoxy resin** compositions containing them
INVENTOR(S): Ichikawa, Satoshi; Kuwahara, Hisamasa; Echigo, Masatoshi
PATENT ASSIGNEE(S): Mitsubishi Gas Chemical Co., Ltd., Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 11 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2004067895	A2	20040304	JP 2002-229973	20020807

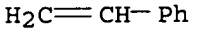
PRIORITY APPLN. INFO.: JP 2002-229973 20020807
OTHER SOURCE(S): MARPAT 140:200355

AB The hardeners comprise (a) modified **polyamines** having ≥2 amino groups and active H derived from the amino groups and (b) PhCH2CH2NR1CH2ACH2NR2R3 (A = phenylene, cyclohexylene; R1-R3 = H, phenethyl) manufactured by **addition reaction** of H2NCH2ACH2NH2 (A = same as above) and **styrene.** The hardeners show low viscosity and low unreacted **polyamine** contents. Thus, a composition comprising 100 parts Epikote 828 and 45 parts hardener comprising 1:1 weight ratio of modified **polyamine** [manufactured from m-xylylenediamine (I), PhOH, and HCHO] and reaction product of I with **styrene** gave a coating film or a cured product with good properties.

IT **100-42-5DP**, **Styrene**, reaction products with **polyamine 25068-38-6DP**, Epikote 828, reaction products with **polyamine**

RL: IMF (Industrial manufacture); RCT (Reactant); PREP (Preparation); RACT (Reactant or reagent)
(modified **polyamine** hardeners for **epoxy resin** compns.)

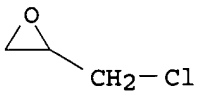
RN 100-42-5 HCAPLUS
CN Benzene, ethenyl- (9CI) (CA INDEX NAME)



RN 25068-38-6 HCAPLUS
CN Phenol, 4,4'-(1-methylethylidene)bis-, polymer with (chloromethyl)oxirane (9CI) (CA INDEX NAME)

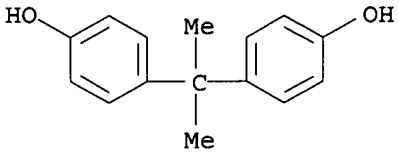
CM 1

CRN 106-89-8
CMF C3 H5 Cl O



CM 2

CRN 80-05-7
CMF C15 H16 O2

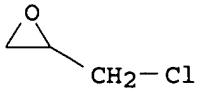


IT **25068-38-6**, Epikote 828
RL: POF (Polymer in formulation); RCT (Reactant); RACT (Reactant or reagent); USES (Uses)
(modified **polyamine** hardeners for **epoxy resin** compns.)

RN 25068-38-6 HCAPLUS
CN Phenol, 4,4'-(1-methylethylidene)bis-, polymer with (chloromethyl)oxirane (9CI) (CA INDEX NAME)

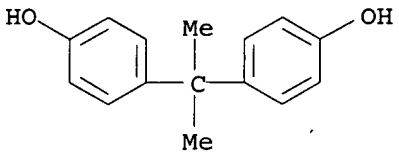
CM 1

CRN 106-89-8
CMF C3 H5 Cl O



CM 2

CRN 80-05-7
CMF C15 H16 O2



L16 ANSWER 11 OF 23 HCAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 2003:858539 HCAPLUS
DOCUMENT NUMBER: 141:24422
TITLE: Synthesis and study on novel **curing agents** for **epoxy resins**
AUTHOR(S): Men, Jin-feng; Yan, Xin
CORPORATE SOURCE: Lab. of Polymer Research, Navy University of Engineering, Wuhan, 430033, Peop. Rep. China
SOURCE: Huaxue Yu Nianhe (2003), (5), 217-219
CODEN: HYZHEN; ISSN: 1001-0017
PUBLISHER: Huaxue Yu Nianhe Bianji Weiyuanhui
DOCUMENT TYPE: Journal
LANGUAGE: Chinese
AB **Curing agents** were prepared by reacting diethylenetriamine or triethylenetetramine with acrylate esters. IR indicates that the **addition reaction** occurs between the **ethylene** groups of the **polyamine** and the double bonds of acrylate. **Epoxy resin** adhesives cured with these **agents** have improved impact strength and adhesion.
IT **111-40-0DP**, Diethylenetriamine, reaction products with acrylate esters **112-24-3DP**, Triethylenetetramine, reaction products with acrylate esters
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(**curing agents** for **epoxy resin** adhesives)
RN 111-40-0 HCAPLUS
CN 1,2-Ethanediamine, N-(2-aminoethyl)- (9CI) (CA INDEX NAME)

$H_2N-CH_2-CH_2-NH-CH_2-CH_2-NH_2$

RN 112-24-3 HCAPLUS
CN 1,2-Ethanediamine, N,N'-bis(2-aminoethyl)- (9CI) (CA INDEX NAME)

$H_2N-CH_2-CH_2-NH-CH_2-CH_2-NH-CH_2-CH_2-NH_2$

L16 ANSWER 12 OF 23 HCAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 2000:195918 HCAPLUS
DOCUMENT NUMBER: 132:195234
TITLE: Hardening agent for **epoxy resins**,

compositions and molded articles
INVENTOR(S): Novak, Jiri; Bartlova, Jindriska; Rajdl, Josef; Kadlecek, Frantisek; Kocian, Antonin
PATENT ASSIGNEE(S): Spolek Pro Chemickou a Hutni Vyrobu A. S., Czech Rep.
SOURCE: Czech Rep., 4 pp.
CODEN: CZXXED
DOCUMENT TYPE: Patent
LANGUAGE: Czech
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
CZ 284952	B6	19990414	CZ 1997-2391	19970728
PRIORITY APPLN. INFO.:			CZ 1997-2391	19970728

AB A title agent, useful especially for coatings, comprises 5-80% **polyamine** compound obtained by **addition reaction** of HCHO an/or paraformaldehyde with a C4-15 **polyamine** containing 2-6 N atoms, e.g., diethylenetriamine, condensation of the adduct in the presence of PhOH and/or C4-12 alkylphenol, and modification of the product with bitumen. The hardener can also contain <80 parts of amino-terminated polypropylene oxide having mol. wt 200-2000, and <30 parts of a hardening accelerator.

IT **56-18-8DP**, Dipropylenetriamine, reaction products with formaldehyde, nonylphenol and **epoxy resin**
111-40-0DP, Diethylenetriamine, reaction products with formaldehyde, nonylphenol and **epoxy resin**
6864-37-5DP, 4,4'-Diamino-3,3'-dimethyldicyclohexylmethane, reaction products with paraformaldehyde, methylphenol and **epoxy resin**
RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(hardeners; manufacture of **epoxy resin** hardener from formaldehyde, **polyamines** and nonylphenol)

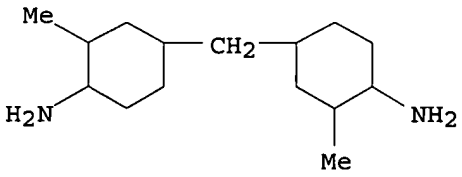
RN 56-18-8 HCAPLUS
CN 1,3-Propanediamine, N-(3-aminopropyl)- (9CI) (CA INDEX NAME)

$H_2N-(CH_2)_3-NH-(CH_2)_3-NH_2$

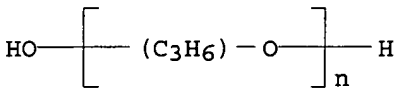
RN 111-40-0 HCAPLUS
CN 1,2-Ethanediamine, N-(2-aminoethyl)- (9CI) (CA INDEX NAME)

$H_2N-CH_2-CH_2-NH-CH_2-CH_2-NH_2$

RN 6864-37-5 HCAPLUS
CN Cyclohexanamine, 4,4'-methylenebis[2-methyl- (9CI) (CA INDEX NAME)



IT **25322-69-4DP**, Polypropylene oxide, amino-terminated, reaction products with formaldehyde, nonylphenol and **epoxy resin**
RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(manufacture of **epoxy resin** hardener from formaldehyde, **polyamines** and nonylphenol)
RN 25322-69-4 HCAPLUS
CN Poly[oxy(methyl-1,2-ethanediyl)], α-hydro-ω-hydroxy- (9CI) (CA INDEX NAME)



L16 ANSWER 13 OF 23 HCAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 1997:732377 HCAPLUS
DOCUMENT NUMBER: 127:359555
TITLE: **Curing agents** for liquid **epoxy resins**, and curable polymer compositions containing them
INVENTOR(S): Shiono, Kenji; Suzuki, Takehiro
PATENT ASSIGNEE(S): Toyo Ink Mfg. Co., Ltd., Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 6 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

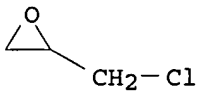
PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 09291135	A2	19971111	JP 1996-107448	19960426
PRIORITY APPLN. INFO.:			JP 1996-107448	19960426

AB Active H- and alkoxysilyl group-having **curing agents** are obtained by Michael **addition reaction** of (A) amines having ≥2 primary or secondary amino groups in a mol., (B) (meth)acrylates having ≥2 (meth)acryloyl groups in a mol., and (C) alkoxysilyl- and amino- or methacryloyl-having silane coupling **agents**. Curable polymer compns. comprise liquid **epoxy resins** and the above **curing agents**, which show good bonding strength to wet surfaces and are useful for civil engineering and construction materials. Thus, Michael **addition reaction** of **isophoronediamine** 48.2, N-β-aminoethyl-γ-aminopropyltriethoxysilane 25.0, and 1,6-hexanediol diacrylate 26.7 g at 40° for 3 h gave a storage-stable **curing agent** (active H 84.6 g/equivalent), 6.3 g of which was mixed with 13.7 g Epikote 828 to obtain a curable composition having good bonding strength to a wet concrete surface.

IT **25068-38-6**, Epikote 828
RL: POF (Polymer in formulation); PRP (Properties); TEM (Technical or engineered material use); USES (Uses)
(active H- and alkoxysilyl-having **curing agents** for curable liquid **epoxy resin** compns. with good bonding strength to wet surfaces)
RN 25068-38-6 HCAPLUS
CN Phenol, 4,4'-(1-methylethylidene)bis-, polymer with (chloromethyl)oxirane (9CI) (CA INDEX NAME)

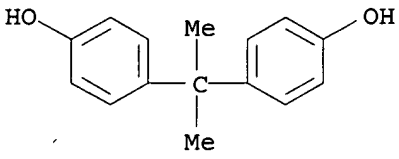
CM 1

CRN 106-89-8
CMF C3 H5 Cl O



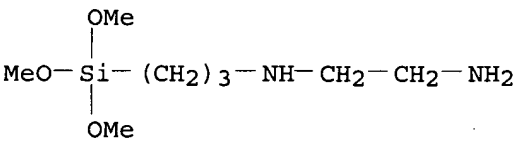
CM 2

CRN 80-05-7
CMF C15 H16 O2

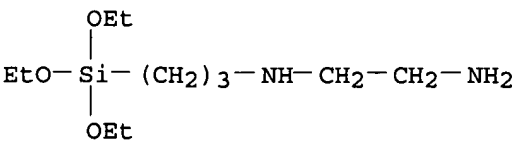


IT **1760-24-3DP**, reaction products with **polyamines** and (meth)acrylates **5089-72-5DP**, N-β-(Aminoethyl)-γ-aminopropyltriethoxysilane, reaction products with **polyamines** and (meth)acrylates and optional other silane coupling **agents** **13048-33-4DP**, 1,6-Hexanediol diacrylate, reaction products with **polyamines** and silane coupling **agents**
RL: IMF (Industrial manufacture); MOA (Modifier or additive use); PRP (Properties); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(**curing agent**; active H- and alkoxysilyl-having **curing agents** for curable liquid **epoxy resin** compns. with good bonding strength to wet surfaces)

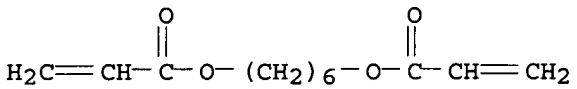
RN 1760-24-3 HCAPLUS
CN 1,2-Ethanediamine, N-[3-(trimethoxysilyl)propyl]- (9CI) (CA INDEX NAME)



RN 5089-72-5 HCAPLUS
CN 1,2-Ethanediamine, N-[3-(triethoxysilyl)propyl]- (9CI) (CA INDEX NAME)



RN 13048-33-4 HCAPLUS
CN 2-Propenoic acid, 1,6-hexanediyl ester (9CI) (CA INDEX NAME)



L16 ANSWER 14 OF 23 HCAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 1996:410394 HCAPLUS
DOCUMENT NUMBER: 125:60046
TITLE: Aqueous self-emulsifiable **epoxy resin curing agents**
INVENTOR(S): Kihara, Shuta; Yonehama, Shinichi; Seki, Kiichiro
PATENT ASSIGNEE(S): Mitsubishi Gas Chemical Company, Inc., Japan
SOURCE: Eur. Pat. Appl., 11 pp.
CODEN: EPXXDW
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

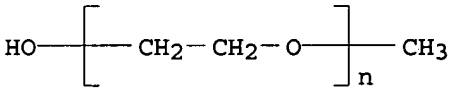
PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
EP 709418	A2	19960501	EP 1995-116009	19951011
EP 709418	A3	19960911		
EP 709418	B1	20030502		
R: DE, FR, GB				
JP 08127637	A2	19960521	JP 1994-265171	19941028
US 5670612	A	19970923	US 1995-541500	19951010

PRIORITY APPLN. INFO.: JP 1994-265171 A 19941028

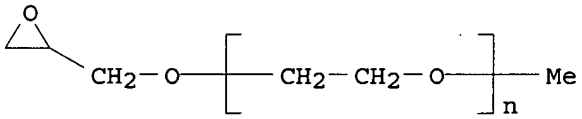
AB The **curing agents**, useful for coatings and adhesives, are produced by reacting of (A) **polyamines**, (B) epoxy group-containing alkoxypolyethylene polyether compds. having average mol. weight 500 to 5000 and (C) ≥1 hydrophobic epoxy compds. having ≥1 epoxy groups in the mol., and optionally, (D) unsatd. compds. capable of **addition reaction** in a molar quantity of the epoxy groups in (B) of 0.001 to 0.1 mol and in a molar quantity of the sum of the epoxy groups in (C) and the unsatd. groups in (D) of 0.2 to 0.5 mol, each based on 1 mol of H bonded to N in (A) which are capable of reacting with epoxy groups or unsatd. groups. Thus, a coating was prepared from Adeka EPES 0425 containing 78.8 parts water and 81.4 parts reaction product of **polyamine** (1 mol., active H 6.0 mol.; reaction product of 272 g m-xylylenediamine and 92.5 g epichlorohydrin) 328, a dimer acid (0.2 mol.) 116, poly(**ethylene** glycol) Me glycidyl ether [[reaction product of 1006 g Uniox M 2000 (methoxypolyethylene glycol) and 50.9 g epichlorohydrin]; 0.026 mol., 0.0043 mol. of epoxy groups/mol. active H in the **polyamine**] 76.3 and butylglycidyl ether (1.6 mol., 1.6 mol., 0.267 mol. of epoxy groups/mol. active H in the **polyamine**) 198 g.

IT **9004-74-4**, Methoxypolyethylene glycol
RL: RCT (Reactant); RACT (Reactant or reagent)
(Uniox M 2000; aqueous self-emulsifiable **epoxy resin curing agents**)

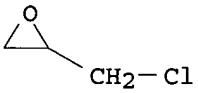
RN 9004-74-4 HCAPLUS
CN Poly(oxy-1,2-ethanediyl), α-methyl-ω-hydroxy- (9CI) (CA INDEX NAME)



IT **40349-67-5P**, Poly(**ethylene** glycol) methyl glycidyl ether
RL: IMF (Industrial manufacture); RCT (Reactant); PREP (Preparation); RACT (Reactant or reagent)
(aqueous self-emsulsifiable **epoxy resin curing agents**)
RN 40349-67-5 HCAPLUS
CN Poly(oxy-1,2-ethanediyl), α-methyl-ω-(oxiranylmethoxy)- (9CI) (CA INDEX NAME)



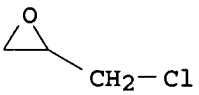
IT **106-89-8**, Epichlorohydrin, reactions
RL: RCT (Reactant); RACT (Reactant or reagent)
(aqueous self-emulsifiable **epoxy resin curing agents**)
RN 106-89-8 HCAPLUS
CN Oxirane, (chloromethyl)- (9CI) (CA INDEX NAME)



IT **25068-38-6**, Epikote 828
RL: RCT (Reactant); TEM (Technical or engineered material use); RACT (Reactant or reagent); USES (Uses)
(aqueous self-emulsifiable **epoxy resin curing agents**)
RN 25068-38-6 HCAPLUS
CN Phenol, 4,4'-(1-methylethylidene)bis-, polymer with (chloromethyl)oxirane (9CI) (CA INDEX NAME)

CM 1

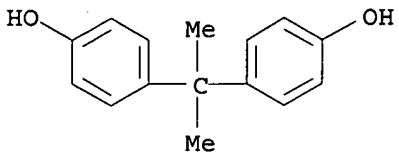
CRN 106-89-8
CMF C3 H5 Cl O



CM 2

CRN 80-05-7

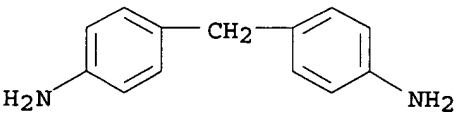
CMF C15 H16 O2



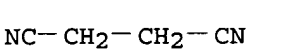
L16 ANSWER 15 OF 23 HCAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 1995:715518 HCAPLUS
DOCUMENT NUMBER: 123:287075
TITLE: DGEBA-MDA-SN-hydroxyl group system and composites - cure kinetics and mechanism in DGEBA/MDA/SN/HQ system-
AUTHOR(S): Shim, Mi-Ja; Kim, Sang-Wook
CORPORATE SOURCE: Coll. Eng., Seoul City Univ., Seoul, 130-743, S. Korea
SOURCE: Kongop Hwahak (1994), 5(3), 517-23
CODEN: KOHWE9; ISSN: 1225-0112
PUBLISHER: Korean Society of Industrial and Engineering Chemistry
DOCUMENT TYPE: Journal
LANGUAGE: English

AB Th cure kinetics and mechanism were studied for DGEBA (diglycidyl ether of bisphenol A)/MDA (4,4'-methylene dianiline) with SN (succinonitrile) and HQ (hydroquinone) as an additive and accelerator. The activation energy and reaction order of the DGEBA/MDA/SN system were not dependent on SN content. But in the case of HQ as an accelerator, the activation energy and the starting cure temperature were lower than those of the DGEBA/MDA/SN system. The cure mechanism of those systems was investigated using FTIR at various SN contents (SN:HQ ratio = 4:1). In the DGEBA/MDA/SN system, primary amine-CN group reaction and CN group-hydroxyl group **reaction** occurred in **addition** to the typical reactions for a epoxy-diamine system of primary amine-epoxy reaction, secondary amine-epoxy reaction, and epoxy-hydroxyl group reaction. These reactions led to a long main chain and low crosslinking d. In the DGEBA/MDA/SN/HQ system, the OH group of HQ formed a transition state with the epoxy and amine groups and also opened the ring of the epoxide group rapidly, thus facilitating the amine-epoxy reaction.

IT **101-77-9**, 4,4'-Methylenedianiline
RL: RCT (Reactant); RACT (Reactant or reagent)
(**crosslinking agent**; **crosslinking** kinetics and mechanism of **epoxy resin** system with diamine, succinonitrile, and hydroquinone)
RN 101-77-9 HCAPLUS
CN Benzenamine, 4,4'-methylenebis- (9CI) (CA INDEX NAME)



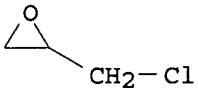
IT **110-61-2**, Succinonitrile **25068-38-6**, Epon 828
RL: RCT (Reactant); RACT (Reactant or reagent)
(crosslinking kinetics and mechanism of **epoxy resin** system with diamine, succinonitrile, and hydroquinone)
RN 110-61-2 HCAPLUS
CN Butanedinitrile (9CI) (CA INDEX NAME)



RN 25068-38-6 HCAPLUS
CN Phenol, 4,4'-(1-methylethylidene)bis-, polymer with (chloromethyl)oxirane (9CI) (CA INDEX NAME)

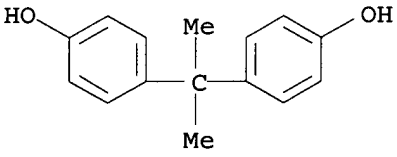
CM 1

CRN 106-89-8
CMF C3 H5 Cl O



CM 2

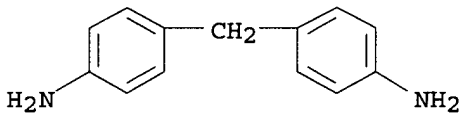
CRN 80-05-7
CMF C15 H16 O2



L16 ANSWER 16 OF 23 HCAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 1994:410863 HCAPLUS
DOCUMENT NUMBER: 121:10863
TITLE: Composite catalysts consisting of aluminum complexes and silanol derivatives for **addition reaction** of **epoxy resins** with active hydrogen compounds
AUTHOR(S): Suzuki, Shuichi; Hayase, Shuzi
CORPORATE SOURCE: Space Program Div., Toshiba Corp., Kawasaki, 210, Japan
SOURCE: Kobunshi Ronbunshu (1994), 51(5), 315-21
CODEN: KBRBA3; ISSN: 0386-2186
DOCUMENT TYPE: Journal
LANGUAGE: Japanese
AB The composite catalysts (AS catalysts) consisting of aluminum complexes and silanol derivs. accelerated the **addition reactions** of **epoxy resins** and active hydrogen compds. Catalytic activity was not observed when one of the two components was absent, as in the case of the ring-opening polymerization of **epoxy resins.** The catalytic activity was affected by the structures of the Al complexes and silanol derivs. Ph3SiOH was more active than Ph2Si(OEt)2 which was decomposed thermally to form a silanol. The acceleration effects were observed even with a small amount of the catalyst, i.e., 0.1%. The DSC curve of the product from an **epoxy resin** and an aromatic amine with the AS catalyst showed an exothermic peak 30° lower than that of

the non-catalyst resin system. The **epoxy resins** cured with the AS catalysts exhibited excellent elec., mech., phys., and thermal properties which met the requirements of elec. and aerospace applications.

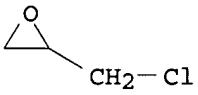
IT **101-77-9**, p,p'-Diaminodiphenylmethane
RL: MOA (Modifier or additive use); USES (Uses)
(**crosslinking agents**, for **epoxy resins**)
RN 101-77-9 HCAPLUS
CN Benzenamine, 4,4'-methylenebis- (9CI) (CA INDEX NAME)



IT **25068-38-6**, Epikote 828
RL: RCT (Reactant); RACT (Reactant or reagent)
(crosslinking of, aluminum-silanol catalyst for)
RN 25068-38-6 HCAPLUS
CN Phenol, 4,4'-(1-methylethylidene)bis-, polymer with (chloromethyl)oxirane (9CI) (CA INDEX NAME)

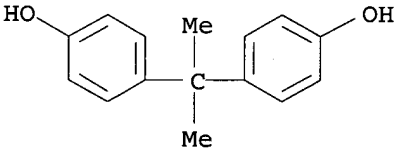
CM 1

CRN 106-89-8
CMF C3 H5 Cl O



CM 2

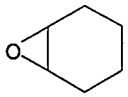
CRN 80-05-7
CMF C15 H16 O2



IT **25702-20-9P**, Poly(**cyclohexene** oxide)
RL: SPN (Synthetic preparation); PREP (Preparation)
(preparation of, catalysts for)
RN 25702-20-9 HCAPLUS
CN 7-Oxabicyclo[4.1.0]heptane, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 286-20-4
CMF C6 H10 O



L16 ANSWER 17 OF 23 HCAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 1992:450882 HCAPLUS
DOCUMENT NUMBER: 117:50882
TITLE: **Epoxy resin** hardeners for coatings and adhesives
INVENTOR(S): Suo, Isamu
PATENT ASSIGNEE(S): Mitsui Toatsu Kagaku K. K., Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 5 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 04080228	A2	19920313	JP 1990-190731	19900720
JP 3009194	B2	20000214		
PRIORITY APPLN. INFO.:			JP 1990-190731	19900720

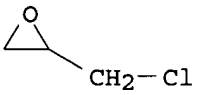
AB The title hardeners with low viscosity and no amine odor, useful for water-resistant adhesives and coatings, are prepared by **addition reaction** of amine mixts. containing bis(aminomethyl)bicycloheptane with monoepoxides at epoxy/(active H in amine) equiv ratio 0.1-0.95. Thus, treating 154 parts 2,5-endo,exo-bis(aminomethyl)bicycloheptane with 58 parts **propylene** oxide at 60-150° gave an adduct with viscosity 280 cP. A coating prepared from Epikote 828 containing 40 phr adduct showed good adhesion, water resistance, and flexibility.

IT **25068-38-6**, Epikote 828
RL: USES (Uses)
(adhesives and coatings containing, hardeners for)

RN 25068-38-6 HCAPLUS
CN Phenol, 4,4'-(1-methylethylidene)bis-, polymer with (chloromethyl)oxirane (9CI) (CA INDEX NAME)

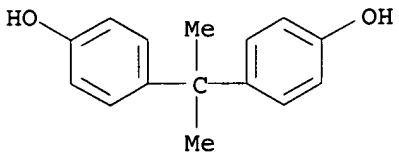
CM 1

CRN 106-89-8
CMF C3 H5 Cl O

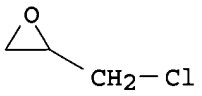


CM 2

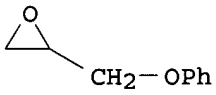
CRN 80-05-7
CMF C15 H16 O2



IT **106-89-8D**, polymers with alkoxylated bis(aminomethyl)bicycloheptane and bisphenol A
RL: TEM (Technical or engineered material use); USES (Uses)
(coatings, water-resistant)
RN 106-89-8 HCAPLUS
CN Oxirane, (chloromethyl)- (9CI) (CA INDEX NAME)



IT **122-60-1D**, Phenyl glycidyl ether, reaction products with bis(aminomethyl)bicycloheptanes
RL: USES (Uses)
(hardeners, for epoxy adhesives and coatings)
RN 122-60-1 HCAPLUS
CN Oxirane, (phenoxymethyl)- (9CI) (CA INDEX NAME)



L16 ANSWER 18 OF 23 HCAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 1990:200673 HCAPLUS
DOCUMENT NUMBER: 112:200673
TITLE: Protective films based on crosslinked sulfochlorinated polyethylene with amino-epoxidic adducts
AUTHOR(S): Robu, Constantin; Rey, Sanda; Stoicescu, Mariana; Danciu, Elena
CORPORATE SOURCE: Cent. Cercet. Prot. Anticor., Bucharest, Rom.
SOURCE: Materiale Plastice (Bucharest, Romania) (1989), 26(2), 110-15, 118
CODEN: MPLAAM; ISSN: 0025-5289
DOCUMENT TYPE: Journal
LANGUAGE: Romanian
AB Anticorrosive coatings based on a chlorosulfonated polyethylene elastomer (Carom CS) modified with aromatic diamine-**epoxy resin** adducts were prepared and evaluated. The kinetics of the diamine-**epoxy resin addition reaction**, as well as the kinetics of crosslinking with the adduct were studied by IR spectroscopy. The coating characteristics, including rheol., physicomech., and elec. properties, and resistance to weathering and chems. were determined
IT **9002-88-4DP**, Polyethylene, chlorosulfonated, reaction products with o-phenylenediamine-DGEBA adducts **25085-99-8DP**, DGEBA, reaction products with o-phenylenediamine and chlorosulfonated polyethylene
RL: SPN (Synthetic preparation); PREP (Preparation)

(coating materials, anticorrosive, preparation and properties of crosslinked)

RN 9002-88-4 HCAPLUS
CN Ethene, homopolymer (9CI) (CA INDEX NAME)

CM 1

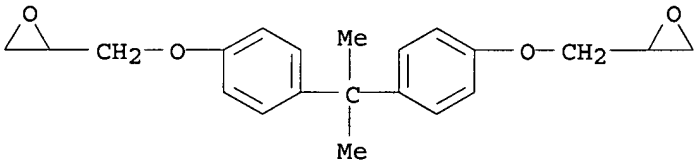
CRN 74-85-1
CMF C2 H4

$H_2C{=}CH_2$

RN 25085-99-8 HCAPLUS
CN Oxirane, 2,2'-[(1-methylethylidene)bis(4,1-phenyleneoxymethylene)]bis-, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 1675-54-3
CMF C21 H24 O4

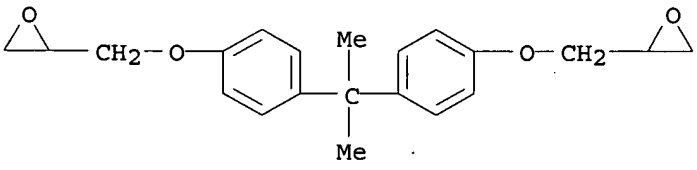


IT **25085-99-8**, DGEBA
RL: RCT (Reactant); RACT (Reactant or reagent)
(reaction of, with aromatic diamines, kinetics of, in preparation of **crosslinking agents** for chlorosulfonated polyethylene rubber coatings)

RN 25085-99-8 HCAPLUS
CN Oxirane, 2,2'-[(1-methylethylidene)bis(4,1-phenyleneoxymethylene)]bis-, homopolymer (9CI) (CA INDEX NAME)

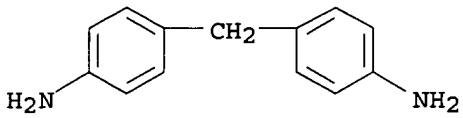
CM 1

CRN 1675-54-3
CMF C21 H24 O4



IT **101-77-9**
RL: RCT (Reactant); RACT (Reactant or reagent)
(reaction of, with **epoxy resins**, kinetics of)

RN 101-77-9 HCAPLUS
CN Benzenamine, 4,4'-methylenebis- (9CI) (CA INDEX NAME)



L16 ANSWER 19 OF 23 HCAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 1990:159799 HCAPLUS
DOCUMENT NUMBER: 112:159799
TITLE: Polyoxyalkylene-**polyamines** and their manufacture
INVENTOR(S): Suzuki, Motoyuki; Nakagawa, Kensho
PATENT ASSIGNEE(S): Sanyo Chemical Industries Ltd., Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 4 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

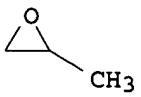
PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 01249748	A2	19891005	JP 1988-79797	19880330
JP 07068188	B4	19950726		
PRIORITY APPLN. INFO.:			JP 1988-79797	19880330

AB The polymeric compds. H(OCHRCH2)mN[(CH2)nNH2][(CH2)pNH2] (R = H, Me, Et; m ≥2; n, p = 2, 3), useful as hardeners for **epoxy resins**, **crosslinking agents** for polyurethanes, antistatic **agents** for polyamides, etc., are prepared by hydrolysis of H(OCHRCH2)mN[(CH2)nN:CR1R2][(CH2)pN:CR1R2] (R1-2 = H, C1-6 alkyl, cyclic group). Thus, 134 g HN(CH2CH2N:CMeCH2CHMe2)2 was treated with 176 g **ethylene** oxide in presence of 1.5 g triethylenediamine at 100° to give 308 g H(OCH2CH2)8N(CH2CH2N:CMeCH2CHMe2)2, which was stirred with H2O at 100° for 1 h to give 224 g H(OCH2CH2)8N(CH2CH2NH2)2.

IT **75-21-8**, Oxirane, **reactions** **75-56-9**, **reactions**
RL: RCT (Reactant); RACT (Reactant or reagent)
(**addition reaction** of, with alkylenetriamines)

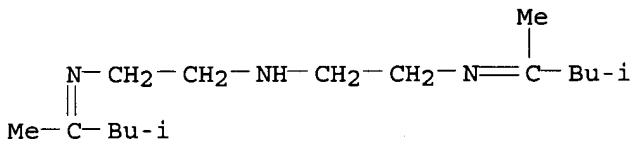
RN 75-21-8 HCAPLUS
CN Oxirane (9CI) (CA INDEX NAME)

RN 75-56-9 HCAPLUS
CN Oxirane, methyl- (9CI) (CA INDEX NAME)



IT **10595-60-5**

RL: RCT (Reactant); RACT (Reactant or reagent)
(reaction of, with alkylene oxides)
RN 10595-60-5 HCAPLUS
CN 1,2-Ethanediamine, N-(1,3-dimethylbutylidene)-N'-[2-[(1,3-dimethylbutylidene)amino]ethyl]- (9CI) (CA INDEX NAME)



L16 ANSWER 20 OF 23 HCAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 1986:462333 HCAPLUS
DOCUMENT NUMBER: 105:62333
TITLE: Curable **epoxy resin** compositions
INVENTOR(S): Asakawa, Yutaka; Ogawa, Akio; Matsui, Akira; Osaki, Yukio
PATENT ASSIGNEE(S): Asahi Denka Kogyo K. K., Japan; ACR K. K.
SOURCE: Jpn. Kokai Tokkyo Koho, 14 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 61009429	A2	19860117	JP 1984-130510	19840625

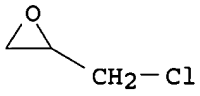
PRIORITY APPLN. INFO.: JP 1984-130510 19840625

AB Compns. comprising an **epoxy resin** and an active organic amino compound prepared by phenol masking of an amino-terminated compound (prepared by **addition reaction** of aromatic, alicyclic, or cyclic **polyamines** having >1 active H bonded to N with aromatic polyglycidylamines, diglycidylhydantoins, or triglycidyl isocyanurates) with phenols having >1 OH group on the ring are useful in preparing rapid-curing coatings without surface amine blushing or sweating at low temperature and high humidity. Thus, a coating composition comprising 100 parts of a mixture of 70% bisphenol A-epichlorohydrin copolymer and 30% bisphenol A-epichlorohydrin-**propylene** oxide copolymer and 34 parts hardener (reaction product of 100 parts 940:380:1360 phenol-tetraglycidyl-m-xylylenediamine-m-xylylenediamine composition and 2 parts thiourea) exhibited hardening time (20°) 9 min, tack-free time (20°) 40 min, and complete hardening during 24 h at 5°.

IT **25068-38-6 36484-54-5**
RL: TEM (Technical or engineered material use); USES (Uses)
(coatings, curing of, phenol-masked amines for rapid)
RN 25068-38-6 HCAPLUS
CN Phenol, 4,4'-(1-methylethylidene)bis-, polymer with (chloromethyl)oxirane (9CI) (CA INDEX NAME)

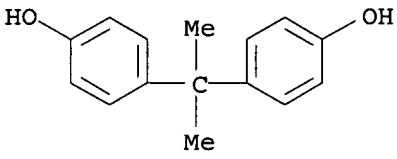
CM 1

CRN 106-89-8
CMF C3 H5 Cl O



CM 2

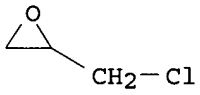
CRN 80-05-7
CMF C15 H16 O2



RN 36484-54-5 HCAPLUS
CN Phenol, 4,4'-(1-methylethylidene)bis-, polymer with (chloromethyl)oxirane and methyloxirane (9CI) (CA INDEX NAME)

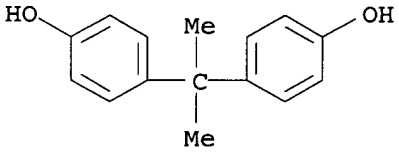
CM 1

CRN 106-89-8
CMF C3 H5 Cl O



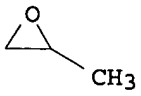
CM 2

CRN 80-05-7
CMF C15 H16 O2



CM 3

CRN 75-56-9
CMF C3 H6 O



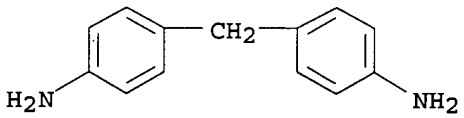
L16 ANSWER 21 OF 23 HCAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 1984:531903 HCAPLUS
DOCUMENT NUMBER: 101:131903
TITLE: Polyepoxy compounds
PATENT ASSIGNEE(S): Mitsubishi Petrochemical Co., Ltd., Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 7 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 59078178	A2	19840504	JP 1982-188538	19821027
PRIORITY APPLN. INFO.:			JP 1982-188538	19821027

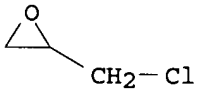
AB Polyepoxy compds., useful as starting materials for heat-resistant hardeners, were prepared by **addition reaction** of epichlorohydrin (I) with diaminodiphenylmethane (II) or its alkyl or halo derivs. in H2O-soluble alcs. (b.p. > 120°), recovery of unreacted I, and removal of HCl with alkali metal hydroxides in DMF, Me2NAc, N-methyl-2pyrrolidone, or (Me2N)3PO. Thus, a mixture of 224 parts I and 30 parts II in (CH2OH)2 was kept 3 h at 60°, concentrated at 60° and 20-30 mm Hg, PhMe and DMF were added, 60 parts 48% aqueous NaOH was added during 1 h at <50°, and the whole kept 2 h at <50° to give 60 parts polyepoxy compound (epoxy equivalent 119, viscosity 50 P at 50°, Gardner index 5, and soluble Cl content 0.02%).

IT **101-77-9D**, reaction products with epichlorohydrin
106-89-8D, reaction products with diaminodiphenylmethane
RL: MOA (Modifier or additive use); USES (Uses)
(**crosslinking agents**, for **epoxy resins**)

RN 101-77-9 HCAPLUS
CN Benzenamine, 4,4'-methylenebis- (9CI) (CA INDEX NAME)



RN 106-89-8 HCAPLUS
CN Oxirane, (chloromethyl)- (9CI) (CA INDEX NAME)



L16 ANSWER 22 OF 23 HCAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 1977:17641 HCAPLUS
DOCUMENT NUMBER: 86:17641
TITLE: Amine-epoxide adduct emulsions as **curing agents** for **epoxy resins**
INVENTOR(S): Akagane, Katsuo; Kamio, Kunimasa

PATENT ASSIGNEE(S): Sumitomo Chemical Co., Ltd., Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 4 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 51090398	A2	19760807	JP 1975-15939	19750206
JP 59036650	B4	19840905		

PRIORITY APPLN. INFO.: JP 1975-15939 A 19750206

AB Aromatic diamine was dissolved in liquid glycidyl ether and emulsified before the **addition reaction** was complete to give a stable aqueous emulsion useful as a **curing agent** for **epoxy resins.** For example, 4,4'-diaminodiphenylmethane [**101-77-9**] 100, 2,4,6-tris(dimethylaminomethyl)phenol 5, and cresyl glycidyl ether [26447-14-3] 38 g was stirred at 90° to a homogeneous solution, stirred with Triton 100 7, water 15, Sumikaflex 400 30g, and then with 25g water to give an emulsion showing no thickening at 50° for 1 week, while the amine-epoxide mixture could not be emulsified after the **addition reaction** was complete.

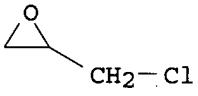
IT **25068-38-6**
RL: USES (Uses)
(**curing agents** for, amine-epoxide adduct emulsion as)

RN 25068-38-6 HCAPLUS

CN Phenol, 4,4'-(1-methylethylidene)bis-, polymer with (chloromethyl)oxirane (9CI) (CA INDEX NAME)

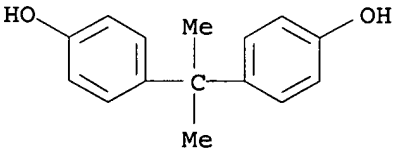
CM 1

CRN 106-89-8
CMF C3 H5 Cl O



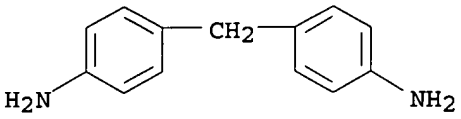
CM 2

CRN 80-05-7
CMF C15 H16 O2



IT **101-77-9D**, reaction products with epoxides
RL: USES (Uses)
(emulsion, **crosslinking agents**, for **epoxy resins**)

RN 101-77-9 HCAPLUS
CN Benzenamine, 4,4'-methylenebis- (9CI) (CA INDEX NAME)



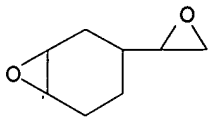
L16 ANSWER 23 OF 23 HCAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 1965:472875 HCAPLUS
DOCUMENT NUMBER: 63:72875
ORIGINAL REFERENCE NO.: 63:13504g-h,13505a-b
TITLE: Low-melting aromatic **polyamines** obtained by condensation of aromatic antines with formaldehyde
PATENT ASSIGNEE(S): Union Carbide Corp.
SOURCE: 46 pp.
DOCUMENT TYPE: Patent
LANGUAGE: Unavailable
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
NL 6406403		19641207	NL	
PRIORITY APPLN. INFO.:			US	19630606

AB Aromatic amines, such as aniline, N-methylaniline and o-chloroaniline (I), are condensed with H2O at >105° in the presence of an acid catalyst in an amount of 0.15.0 mole %, based on the aromatic amine; 1.5-10 moles aromatic amine per mole H2CO are used. The acid catalysts have a pKA ≤3 and are monobasic protonic acids, such as HCl or methanesulfonic acid, or Lewis acids, which are hydrolyzed in water to give monobasic protonic acids. The aromatic **polyamines** thus obtained have a higher proportion of o-CH2 linkages, a lower m.p., and a lower viscosity than the known aromatic amine-H2CO condensates, prepared at lower temperature in the presence of greater amts. of acid. A higher reaction temperature results in a higher proportion of ortho linkages. The **polyamines** can be used as **curing agents** in the production of polyurethan elastomers and polyepoxide resins. The **polyamines** can be phosgenated to low-melting polyisocyanates, e.g. liquid bis(isocyanatophenyl)methane, which are very suitable for the preparation of polyurethan resins and foams. Polyols obtained by the reaction of the **polyamines** with epoxides, such as **propylene** oxide, are also useful for this purpose. Thus, a mixture of 117.5 moles I and 0.905 mole of a mixed alkanesulfonic acid was heated to 130°, and 29.75 moles H2CO (in the form of a 37% aqueous solution) were added over a period of 345 min. During this period, the temperature was kept at 130-5° and H2O was distilled After the **addition**, the **reaction** mixture was kept at 130-5° for 2 hrs. The pressure was then gradually reduced in 5 hrs. to a min. of 4 mm. This pressure was held for 30 min.; yield 7420 g. **polyamine.** The **polyamine** was ion-exchanged to remove the catalyst. It was liquid at room temperature and contained 74.2% by weight diamine. The diamine contained 25.3% 2,4'-, 72.6% 4,4'-, and 2.1% 2,2'-diamino-3,3'-dichlorodiphenylmethane.

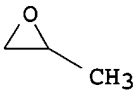
IT **106-87-6**, 7-Oxabicyclo[4.1.0]heptane, 3-(epoxyethyl)-
(**epoxy resins** from aromatic **polyamines**

and)
RN 106-87-6 HCAPLUS
CN 7-Oxabicyclo[4.1.0]heptane, 3-oxiranyl- (9CI) (CA INDEX NAME)



IT **75-21-8**, **Ethylene** oxide
(reaction products of, with aromatic **polyamines** and **propylene** oxide, for urethan polymers)
RN 75-21-8 HCAPLUS
CN Oxirane (9CI) (CA INDEX NAME)

IT **75-56-9**, **Propylene** oxide
(reaction products with **ethylene** oxide and **polyamines** (aromatic), for urethan polymers)
RN 75-56-9 HCAPLUS
CN Oxirane, methyl- (9CI) (CA INDEX NAME)



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L1 3266 SEA FILE=REGISTRY ABB=ON PLU=ON POLYAMINE OR METHANEDIAMINE OR ISOPHORONEDIAMINE OR DIAMINODICYCLOHEXYLMETHANE OR 'BIS(4-AMINO-3-METHYLCYCLOHEXYL)METHANE'?/CN OR AMINOMETHYLCYCLOHEXYLMETHANE OR AMINOMETHYLPIPERAZINE
L2 19 SEA FILE=REGISTRY ABB=ON PLU=ON NORBORNANEDIAMINE OR POLYCYCLOHEXYLPOLYAMINE OR POLYCYCLOHEXYL POLYAMINE/CN OR 'BIS(AMINOMETHYL)TRICYCLO'?/CN OR AMINOMETHYLTRICYCLO?
L3 241442 SEA FILE=REGISTRY ABB=ON PLU=ON ETHYLENE OR PROPYLENE OR BUTENE
L4 271693 SEA FILE=REGISTRY ABB=ON PLU=ON BUTADIENE OR PENTENE OR HEXENE OR HEPTENE OR OCTENE OR NONENE OR DECENE OR ISOBUTYLENE OR CYCLOHEXENE OR CYCLOHEXADIENE OR STYRENE OR DIVINYLBENZENE
L5 71335 SEA FILE=HCAPLUS ABB=ON PLU=ON L1 OR POLYAMINE OR METHANEDIAMINE OR ISOPHORONEDIAMINE OR DIAMINODICYCLOHEXYLMETHANE OR 4(W)AMINO(W)3(W)METHYLCYCLOHEXYL(W)METHANE OR AMINOMETHYLCYCLOHEXYLMETHANE OR AMINOMETHYLPIPERAZINE
L6 166 SEA FILE=HCAPLUS ABB=ON PLU=ON L2 OR NORBORNANEDIAMINE OR POLYCYCLOHEXYLPOLYAMINE OR AMINOMETHYL(W)TRICYCLO OR AMINOMETHYLTRICYCLO?
L7 2044089 SEA FILE=HCAPLUS ABB=ON PLU=ON L3 OR ETHYLENE OR PROPYLENE OR BUTENE
L8 922588 SEA FILE=HCAPLUS ABB=ON PLU=ON L4 OR BUTADIENE OR PENTENE OR HEXENE OR HEPTENE OR OCTENE OR NONENE OR DECENE OR ISOBUTYLENE

```
                OR CYCLOHEXENE OR CYCLOHEXADIENE OR STYRENE OR DIVINYLBENZENE
L9         36212 SEA FILE=HCAPLUS ABB=ON  PLU=ON  (L5 OR L6) AND (L7 OR L8)
L10          321 SEA FILE=HCAPLUS ABB=ON  PLU=ON  L9 AND ADDITION(2A)REACTION
L11           31 SEA FILE=HCAPLUS ABB=ON  PLU=ON  ("CURING AGENTS"/CV OR
                "CROSSLINKING AGENTS"/CV OR "VULCANIZATION ACCELERATORS AND
                AGENTS"/CV) AND L10
L12           44 SEA FILE=HCAPLUS ABB=ON  PLU=ON  L10 AND (CURING OR VULCANIZ?
                OR CROSSLINK?)(L)AGENT
L13           44 SEA FILE=HCAPLUS ABB=ON  PLU=ON  L11 OR L12
L14          742 SEA FILE=REGISTRY ABB=ON  PLU=ON  EPOXY(L)RESIN
L15       174397 SEA FILE=HCAPLUS ABB=ON  PLU=ON  L14 OR EPOXY(5A)RESIN
L17        10687 SEA FILE=HCAPLUS ABB=ON  PLU=ON  (L5 OR L6)(L)PREP/RL
L18       465888 SEA FILE=HCAPLUS ABB=ON  PLU=ON  (L7 OR L8)(L)REACTANT/RL
L19         1942 SEA FILE=HCAPLUS ABB=ON  PLU=ON  L17 AND L18
L20       129007 SEA FILE=HCAPLUS ABB=ON  PLU=ON  L15(L)USES/RL
L21          119 SEA FILE=HCAPLUS ABB=ON  PLU=ON  L19 AND L20
L22           78 SEA FILE=HCAPLUS ABB=ON  PLU=ON  L21 AND PD=<SEPTEMBER 25,
                2003
L23           77 SEA FILE=HCAPLUS ABB=ON  PLU=ON  L22 NOT L13
L24           11 SEA FILE=HCAPLUS ABB=ON  PLU=ON  L23 AND CYCLO?


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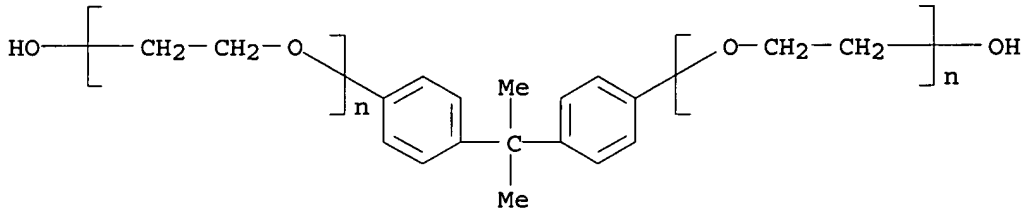
=> d ibib abs hitstr l24 1-11

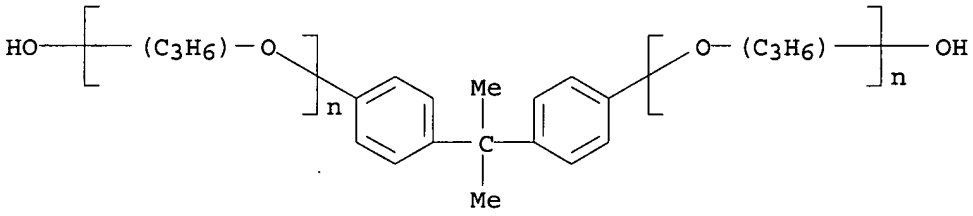
L24  ANSWER 1 OF 11  HCAPLUS  COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER:         2003:548932  HCAPLUS
DOCUMENT NUMBER:          139:101864
TITLE:                    Epoxy resin compositions for semiconductor sealants
                          and other uses
INVENTOR(S):              Waki, Koshi; Akimoto, Koji
PATENT ASSIGNEE(S):       Asahi Denka Kogyo K. K., Japan
SOURCE:                   Jpn. Kokai Tokkyo Koho, 10 pp.
                          CODEN: JKXXAF
DOCUMENT TYPE:            Patent
LANGUAGE:                 Japanese
FAMILY ACC. NUM. COUNT:   1
PATENT INFORMATION:

     PATENT NO.           KIND   DATE        APPLICATION NO.         DATE
     ---------------      ----   --------    --------------------    --------
     JP 2003201334         A2    20030718    JP 2002-607             20020107 <--
PRIORITY APPLN. INFO.:                       JP 2002-607             20020107
AB   The compns. with low water absorption and stress contain polyglycidyl
     ethers G[OCH(CH2OR1)]m(OCHR2CH2)pO-p-C6H4A-p-C6H4O(CH2CHR2O)q[CH2CH(CH2OR1
     )O]nG {G = glycidyl; R1 = alkyl, aryl, alkylaryl, arylalkyl; R2 = H, Me; A
     = direct bond, (un)substituted alkylene, cycloalkylene, O, S,
     SS, SO, SO2, CO, OCO; m + n = 1, 2; p + q = 1-10}.  Thus, Adeka Polyether
     BPX 11 (bisphenol A-polyoxypropylene 1:2 adduct) was reacted with Adeka
     Glycilol ED 518S (2-ethylhexyl monoglycidyl ether) and then
     epichlorohydrin to give polyglycidyl ether, which was mixed with modified
     aromatic amine and cured to give a test piece showing water absorption 0.34%.
IT   32492-61-8DP, Ethoxylated bisphenol A, reaction products with
     monoglycidyl ethers, glycidyl ethers
     RL: IMF (Industrial manufacture); RCT (Reactant); TEM (Technical
     or engineered material use); PREP (Preparation); RACT (Reactant or
     reagent); USES (Uses)
        (Adeka BEX 11, amine-crosslinked; epoxy resin
```

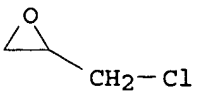
compns. containing polyglycidyl ethers for semiconductor sealants)
RN 32492-61-8 HCAPLUS
CN Poly(oxy-1,2-ethanediyl), α,α'-[(1-methylethylidene)di-4,1-phenylene]bis[ω-hydroxy- (9CI) (CA INDEX NAME)



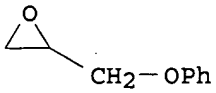
IT **37353-75-6DP**, Propoxylated bisphenol A, reaction products with monoglycidyl ethers, glycidyl ethers
RL: IMF (Industrial manufacture); **RCT (Reactant)**; TEM (Technical or engineered material use); PREP (Preparation); RACT (Reactant or reagent); **USES (Uses)**
(Adeka BPX 11, Adeka BPX 22, amine-crosslinked; **epoxy resin** compns. containing polyglycidyl ethers for semiconductor sealants)
RN 37353-75-6 HCAPLUS
CN Poly[oxy(methyl-1,2-ethanediyl)], α,α'-[(1-methylethylidene)di-4,1-phenylene]bis[ω-hydroxy- (9CI) (CA INDEX NAME)



IT **106-89-8DP**, Epichlorohydrin, ethers with ethoxylated or propoxylated bisphenol A derivs. **122-60-1DP**, Phenyl glycidyl ether, reaction products with propoxylated bisphenol A, glycidyl ethers
RL: IMF (Industrial manufacture); **RCT (Reactant)**; TEM (Technical or engineered material use); PREP (Preparation); RACT (Reactant or reagent); **USES (Uses)**
(amine-crosslinked; **epoxy resin** compns. containing polyglycidyl ethers for semiconductor sealants)
RN 106-89-8 HCAPLUS
CN Oxirane, (chloromethyl)- (9CI) (CA INDEX NAME)



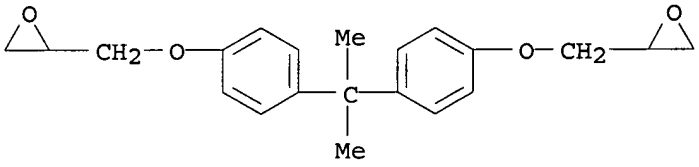
RN 122-60-1 HCAPLUS
CN Oxirane, (phenoxymethyl)- (9CI) (CA INDEX NAME)



IT **25085-99-8DP**, Adeka EP 4100E, polymers with polyglycidyl ethers and dicyandiamide
RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); **USES (Uses)**
(**epoxy resin** compns. containing polyglycidyl ethers for semiconductor sealants)
RN 25085-99-8 HCAPLUS
CN Oxirane, 2,2'-[(1-methylethylidene)bis(4,1-phenyleneoxymethylene)]bis-, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 1675-54-3
CMF C21 H24 O4



L24 ANSWER 2 OF 11 HCAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 2002:866953 HCAPLUS
DOCUMENT NUMBER: 137:377518
TITLE: Pressure-sensitive adhesive acrylic compositions and adhesive sheets with good adhesion under hot and humid conditions for displays
INVENTOR(S): Tomita, Koji
PATENT ASSIGNEE(S): Soken Chemical and Engineering Co., Ltd., Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 9 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2002327160	A2	20021115	JP 2001-136744	20010507 <--

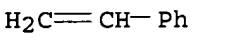
PRIORITY APPLN. INFO.: JP 2001-136744 20010507
AB The compns. comprise (A) adhesive polymers with Mw ≥600,000 comprising alkoxyalkyl (meth)acrylates and 0.1-10% carboxy-containing monomers 100, (B) low-mol.-weight polymers with Tg ≥60° and Mw ≤50,000 comprising monomers selected from alkyl methacrylates, **cycloalkyl** methacrylates, benzyl methacrylate, and styrene and 0.5-10% amino- or amido-containing monomers 5-40, and (C) crosslinkers 0.001-2.0 parts. The adhesive sheets are useful for optical films and protective films for liquid crystal displays (LCD), plasma display panels (PDP), touch panels, etc.
IT **24981-13-3P**, Acrylamide-**styrene** copolymer
RL: IMF (Industrial manufacture); **RCT (Reactant)**; PREP

(Preparation); RACT (Reactant or reagent)
(pressure-sensitive adhesive acrylic compns. with good adhesion under hot and humid conditions for optical adhesive sheets for displays)

RN 24981-13-3 HCAPLUS
CN 2-Propenamide, polymer with ethenylbenzene (9CI) (CA INDEX NAME)

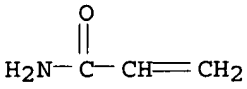
CM 1

CRN 100-42-5
CMF C8 H8



CM 2

CRN 79-06-1
CMF C3 H5 N O



L24 ANSWER 3 OF 11 HCAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 2002:736309 HCAPLUS
DOCUMENT NUMBER: 137:248395
TITLE: Adducts of polyalkylene glycol monoglycidyl ethers and polyamines as curing agents for curable epoxy compositions
INVENTOR(S): Scherzer, Wolfgang; Volle, Joerg; Fitzek, Doris
PATENT ASSIGNEE(S): Vantico G.m.b.H. & Co. K.-G., Germany
SOURCE: PCT Int. Appl., 14 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2002074832	A1	20020926	WO 2002-EP2414	20020306 <--
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZM, ZW				
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
DE 10112555	A1	20021002	DE 2001-10112555	20010315 <--
CA 2440471	AA	20020926	CA 2002-2440471	20020306 <--
EP 1385896	A1	20040204	EP 2002-729964	20020306
EP 1385896	B1	20050504		
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT,				

IE, SI, LT, LV, FI, RO, MK, CY, AL, TR

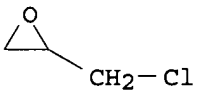
JP 2004528432	T2	20040916	JP 2002-573836	20020306
AT 294827	E	20050515	AT 2002-729964	20020306
ES 2240741	T3	20051016	ES 2002-2729964	20020306
NO 2003004048	A	20030912	NO 2003-4048	20030912 <--
US 2004077802	A1	20040422	US 2003-472100	20030915
US 7001977	B2	20060221		

PRIORITY APPLN. INFO.: DE 2001-10112555 A 20010315
WO 2002-EP2414 W 20020306

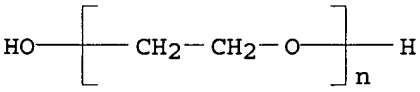
AB The adducts having ≥2 amine hydrogen groups is prepared by reaction of (A) an polyamine containing ≥2 amino groups with (B) a polyalkylene glycol monoglycidyl ether. Curable compns. containing the above adducts and epoxy resins are useful for casting resins, adhesives, matrix resins, tooling resins or coating compns. Thus, 100 parts bisphenol F diglycidyl ether was mixed with 92 parts polypropylene glycol monoglycidyl ether-isophoronediamine adduct and cured at room temperature showing gel time 70
min and Shore D (at 23°) 40 after 1 day and 68 after 3 days, resp.

IT **106-89-8**, Epichlorohydrin, reactions **25322-68-3**, Polyethylene glycol **25322-69-4**, Polypropylene glycol
RL: **RCT (Reactant)**; RACT (Reactant or reagent)
(adducts of polyalkylene glycol monoglycidyl ethers and polyamines as curing agents for curable epoxy compns.)

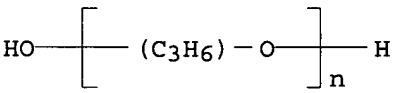
RN 106-89-8 HCAPLUS
CN Oxirane, (chloromethyl)- (9CI) (CA INDEX NAME)



RN 25322-68-3 HCAPLUS
CN Poly(oxy-1,2-ethanediyl), α-hydro-ω-hydroxy- (9CI) (CA INDEX NAME)

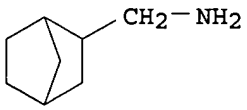


RN 25322-69-4 HCAPLUS
CN Poly[oxy(methyl-1,2-ethanediyl)], α-hydro-ω-hydroxy- (9CI) (CA INDEX NAME)



IT **62196-77-4DP**, Bicyclo[2.2.1]heptane-2,?-dimethanamine, reaction products with polyalkylene glycol monoglycidyl ethers
RL: IMF (Industrial manufacture); MOA (Modifier or additive use); **PREP (Preparation)**; USES (Uses)
(curing agents; adducts of polyalkylene glycol monoglycidyl ethers and **polyamines** as curing agents for curable epoxy compns.)

RN 62196-77-4 HCAPLUS
CN Bicyclo[2.2.1]heptane-2,?-dimethanamine (9CI) (CA INDEX NAME)



D1—CH_2—NH_2

REFERENCE COUNT: 6 THERE ARE 6 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L24 ANSWER 4 OF 11 HCAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 2002:534052 HCAPLUS
DOCUMENT NUMBER: 137:79373
TITLE: Reaction product of phenol-aldehyde with polyamine(-epoxy adduct) and proton donor for epoxy resin curing
INVENTOR(S): Moon, Robert M.; Shah, Shailesh; Natesh, Anbazhagan; Deangelis, Gaetano D.; Mulvey, Joseph L.; Cash, Ronald T., Jr.
PATENT ASSIGNEE(S): Cognis Corporation, USA
SOURCE: U.S., 8 pp., Cont.-in-part of Appl. No. PCT/US99/16696.
CODEN: USXXAM
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 2
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 6420496	B1	20020716	US 1999-415157	19991008 <--
WO 2000008082	A1	20000217	WO 1999-US16696	19990803 <--

W: AE, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM
RW: GH, GM, KE, LS, MW, SD, SL, SZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG

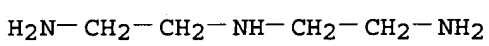
PRIORITY APPLN. INFO.: US 1998-95097P P 19980803
WO 1999-US16696 A2 19990803

AB A curing agent for epoxy resins is prepared by (1) reacting a phenol and an aldehyde in the presence of a basic catalyst to form a first reaction product, (2) reacting the first reaction product with a polyamine or a polyamine-epoxy adduct to form a second reaction product containing unreacted primary amine groups, and (3) reacting the second reaction product with a proton donor compound having a pKa value of 11 or less to form the curing agent. Thus, adding in this order 95% paraformaldehyde 38.1, water 60.3, N,N-dimethylbenzylamine 6.8 and nonylphenol 398.2 to a reactor equipped with a cold condenser, heating slowly to 60°, holding 2 h, heating to 100°, adding MXDA 180.5 g, holding 30 min, switching to Mannich setup, heating to 150°, pulling vacuum to 50 mm-Hg, holding 15 min, breaking vacuum with N, cooling and discharging gave a clear product with

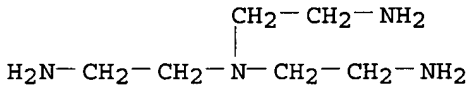
viscosity at 25° of 614 P.

IT **111-40-0DP**, Diethylenetriamine, reaction products with phenol-aldehyde condensates **4097-89-6DP**, N,N-Bis(2-aminoethyl)-1,2-ethanediamine, reaction products with phenol-aldehyde condensates **25068-38-6DP**, DER 331, reaction products with phenol-aldehyde condensates and **polyamines**
RL: IMF (Industrial manufacture); **RCT (Reactant)**; **PREP (Preparation)**; RACT (Reactant or reagent)
(manuf of agents for epoxy resin curing)

RN 111-40-0 HCAPLUS
CN 1,2-Ethanediamine, N-(2-aminoethyl)- (9CI) (CA INDEX NAME)



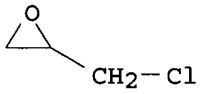
RN 4097-89-6 HCAPLUS
CN 1,2-Ethanediamine, N,N-bis(2-aminoethyl)- (9CI) (CA INDEX NAME)



RN 25068-38-6 HCAPLUS
CN Phenol, 4,4'-(1-methylethylidene)bis-, polymer with (chloromethyl)oxirane (9CI) (CA INDEX NAME)

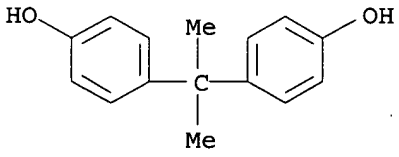
CM 1

CRN 106-89-8
CMF C3 H5 Cl O



CM 2

CRN 80-05-7
CMF C15 H16 O2



REFERENCE COUNT: 13 THERE ARE 13 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L24 ANSWER 5 OF 11 HCAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 2001:624211 HCAPLUS
DOCUMENT NUMBER: 135:196956

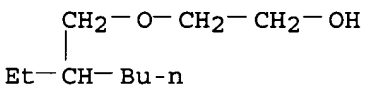
TITLE: Weather- and corrosion-resistant cationic electrodeposition coating compositions and manufacture of their coatings
INVENTOR(S): Bessho, Koji; Inoue, Tsuyoshi; Yamada, Mitsuo
PATENT ASSIGNEE(S): Nippon Paint Co., Ltd., Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 10 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2001234116	A2	20010828	JP 2000-46086	20000223 <--

PRIORITY APPLN. INFO.: JP 2000-46086 20000223

AB The compns. comprise amino-containing epoxy resins, amino-containing acrylic resins [solubility parameter (SP) lower than the epoxy resins by ≥0.85], and 2 types of blocked polyisocyanates in neutralizer-containing water-based media, wherein difference of SP between one blocked isocyanate and the acrylic resins is ≤0.24 and that between the other isocyanate and the epoxy resins is ≤0.6. Thus, a composition comprising an amino-containing epoxy resin [SP 10.08; manufactured from bisphenol A epoxy resin (Epo Tohto YD 014), N-methylethanolamine, and diethylenetriamine Me iso-Bu ketimine], hydroxyethyl methacrylate-dimethylaminoethyl methacrylate-2-ethylhexyl methacrylate-Bu methacrylate copolymer (SP 11.40), 2-ethylhexyl cellosolve-blocked 4,4'-methylenebis(**cyclohexylisocyanate**) (SP 9.88), Me Et ketoxime-blocked IPDI (SP 12.00), and a bisphenol A epoxy (Epon 828)-based pigment paste was electrodeposited on a black steel plate and baked to give a coating showing pencil hardness H and good resistance to organic solvents and a salt solution

IT **1559-35-9D**, reaction products with diisocyanates
RL: MOA (Modifier or additive use); **RCT (Reactant)**; RACT (Reactant or reagent); USES (Uses)
(crosslinking agent; weather- and corrosion-resistant cationic electrodeposition coating compns.)
RN 1559-35-9 HCAPLUS
CN Ethanol, 2-[(2-ethylhexyl)oxy]- (7CI, 8CI, 9CI) (CA INDEX NAME)

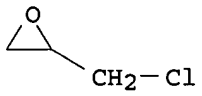


IT **25068-38-6DP**, Epo Tohto YD 014, reaction products with amines, polymers with amine-containing acrylic polymers
RL: IMF (Industrial manufacture); PRP (Properties); TEM (Technical or engineered material use); PREP (Preparation); **USES (Uses)**
(isocyanate-crosslinked; weather- and corrosion-resistant cationic electrodeposition coating compns.)
RN 25068-38-6 HCAPLUS
CN Phenol, 4,4'-(1-methylethylidene)bis-, polymer with (chloromethyl)oxirane (9CI) (CA INDEX NAME)

CM 1

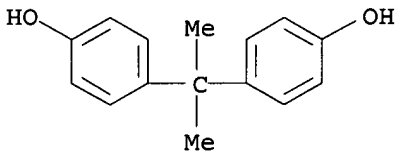
CRN 106-89-8

CMF C3 H5 Cl O



CM 2

CRN 80-05-7
CMF C15 H16 O2



RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); **USES (Uses)**
(pigment dispersant; weather- and corrosion-resistant cationic electrodeposition coating compns.

L24 ANSWER 6 OF 11 HCAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 2001:85614 HCAPLUS
DOCUMENT NUMBER: 134:132332
TITLE: Storage-stable one-liquid thermosetting epoxy resin compositions
INVENTOR(S): Ogawa, Akio; Abe, Manbu
PATENT ASSIGNEE(S): Asahi Denka Kogyo K. K., Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 9 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2001031738	A2	20010206	JP 1999-209982	19990723 <--

PRIORITY APPLN. INFO.: JP 1999-209982 19990723

AB The compns., useful for coatings, adhesives, etc., comprise epoxy resins and latent curing agents containing R1R2N(CH2)nNH2 (R1, R2 = C1-8-alkyl, alkylene containing N or O; n = 1-6), dicarboxylic acid dihydrazides, and organic polyisocyanates. Thus, a curing agent prepared from N,N-dimethylaminopropylamine, adipic acid dihydrazide, IPDI, and isophorone diamine was mixed with a bisphenol F epoxy resin (Adeka Resin EP 4901E) to give a composition showing good curability and mech. strength.

IT **109-55-7DP**, reaction products with diisocyanates, adipic acid dihydrazide, glycidyl compds., and diamines **25085-99-8DP**, Adeka Resin EP 4100, reaction products with diisocyanates, diamines, adipic acid dihydrazide, and dimethylaminopropylamine
RL: IMF (Industrial manufacture); MOA (Modifier or additive use); **RCT (Reactant)**; PREP (Preparation); RACT (Reactant or reagent); **USES (Uses)**

(latent curing agent; storage-stable one-liquid thermosetting **epoxy resin** compns.)

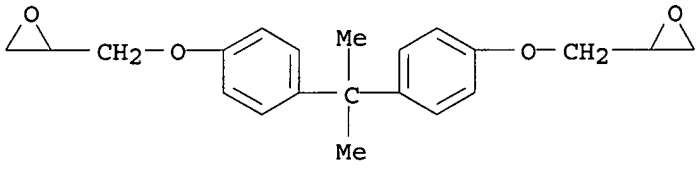
RN 109-55-7 HCAPLUS
CN 1,3-Propanediamine, N,N-dimethyl- (6CI, 8CI, 9CI) (CA INDEX NAME)

$H_2N-(CH_2)_3-NMe_2$

RN 25085-99-8 HCAPLUS
CN Oxirane, 2,2'-[(1-methylethylidene)bis(4,1-phenyleneoxymethylene)]bis-, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 1675-54-3
CMF C21 H24 O4



L24 ANSWER 7 OF 11 HCAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 2000:260389 HCAPLUS
DOCUMENT NUMBER: 132:295210
TITLE: Highly branched oligoamides, their preparation and use as epoxy hardeners
INVENTOR(S): Moshinsky, Leonid
PATENT ASSIGNEE(S): Epox Ltd., Israel
SOURCE: PCT Int. Appl., 105 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2000022030	A1	20000420	WO 1999-IL540	19991013 <--
W: AE, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CR, CU, CZ, DE, DK, DM, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
RW: GH, GM, KE, LS, MW, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG				
US 6288208	B1	20010911	US 1999-295320	19990420 <--
CA 2347200	AA	20000420	CA 1999-2347200	19991013 <--
AU 9961196	A1	20000501	AU 1999-61196	19991013 <--
EP 1121386	A1	20010808	EP 1999-947835	19991013 <--
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO				

JP 2002527555 T2 20020827 JP 2000-575930 19991013 <--
PRIORITY APPLN. INFO.: IL 1998-126565 A 19981014
WO 1999-IL540 W 19991013

AB The present invention relates to a highly branched polyamide oligomer R[NR1R2]mNR12 (m = 1-5; R = various monovalent groups or epoxy-amide polymers; R2 = linear or branched alkylene, etc.), to the process for preparing such branched oligomers and to different uses thereof. The polyamide oligomers may be used, for example, as epoxy hardeners in the preparation of thermosetting compns., as thermoplastic hot melt adhesives, as adhesion promoters and many other suitable applications.

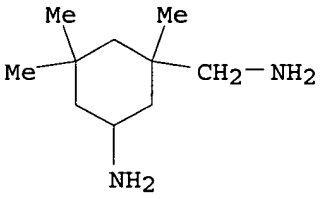
IT **38294-64-3DP**, dendripolyamides
RL: IMF (Industrial manufacture); **PREP (Preparation)**
(highly branched oligoamides, their preparation and use as epoxy hardeners)

RN 38294-64-3 HCAPLUS

CN Phenol, 4,4'-(1-methylethylidene)bis-, polymer with 5-amino-1,3,3-trimethylcyclohexanemethanamine and (chloromethyl)oxirane (9CI) (CA INDEX NAME)

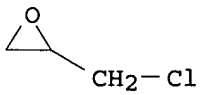
CM 1

CRN 2855-13-2
CMF C10 H22 N2



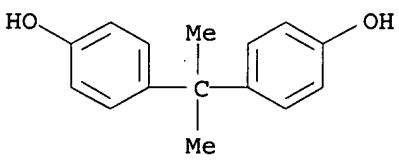
CM 2

CRN 106-89-8
CMF C3 H5 Cl O



CM 3

CRN 80-05-7
CMF C15 H16 O2



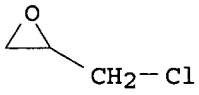
IT **25068-38-6**, Epon 828

RL: NUU (Other use, unclassified); **USES (Uses)**
(highly branched oligoamides, their preparation and use as epoxy hardeners)

RN 25068-38-6 HCAPLUS
CN Phenol, 4,4'-(1-methylethylidene)bis-, polymer with (chloromethyl)oxirane (9CI) (CA INDEX NAME)

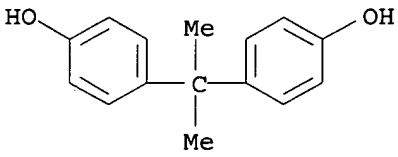
CM 1

CRN 106-89-8
CMF C3 H5 Cl O



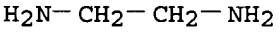
CM 2

CRN 80-05-7
CMF C15 H16 O2

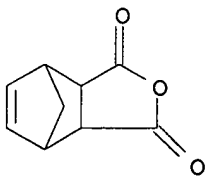


IT **107-15-3**, 1,2-Ethanediamine, reactions **826-62-0**, 5-Norbornene-2,3-dicarboxylic acid anhydride **3312-60-5**, N-**Cyclohexyl**-1,3-propanediamine **9046-10-0**, Poly(**propylene** glycol)bis(2-aminopropyl)ether **18799-27-4**
RL: **RCT (Reactant)**; RACT (Reactant or reagent)
(highly branched oligoamides, their preparation and use as epoxy hardeners)

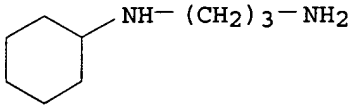
RN 107-15-3 HCAPLUS
CN 1,2-Ethanediamine (9CI) (CA INDEX NAME)



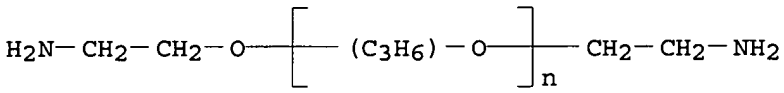
RN 826-62-0 HCAPLUS
CN 4,7-Methanoisobenzofuran-1,3-dione, 3a,4,7,7a-tetrahydro- (9CI) (CA INDEX NAME)



RN 3312-60-5 HCAPLUS
CN 1,3-Propanediamine, N-cyclohexyl- (6CI, 7CI, 8CI, 9CI) (CA INDEX NAME)

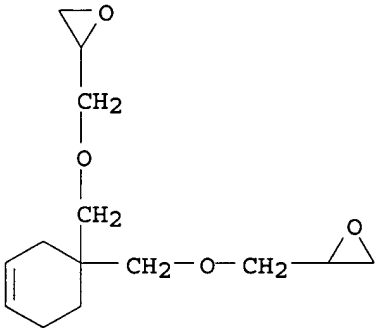


RN 9046-10-0 HCAPLUS
CN Poly[oxy(methyl-1,2-ethanediyl)], α-(2-aminomethylethyl)-ω-(2-aminomethylethoxy)- (9CI) (CA INDEX NAME)



2 (D1—Me)

RN 18799-27-4 HCAPLUS
CN Oxirane, 2,2'-[3-cyclohexen-1-ylidenebis(methyleneoxymethylene)]bis- (9CI) (CA INDEX NAME)



REFERENCE COUNT: 4 THERE ARE 4 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L24 ANSWER 8 OF 11 HCAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 1996:685229 HCAPLUS
DOCUMENT NUMBER: 125:302368
TITLE: Amine-epoxy-carbonate-based curing agents for elastic epoxy resin compositions
INVENTOR(S): Marten, Manfred; Godau, Claus; Neumann, Uwe
PATENT ASSIGNEE(S): Vianova Resins Gmbh, Germany
SOURCE: Eur. Pat. Appl., 24 pp.
CODEN: EPXXDW
DOCUMENT TYPE: Patent
LANGUAGE: German
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
EP 735070	A1	19961002	EP 1996-104783	19960326 <--

R: AT, BE, CH, DE, DK, ES, FI, FR, GB, IE, IT, LI, NL, PT, SE

DE 19512316	A1	19961002	DE 1995-19512316	19950401 <--
AT 188716	E	20000115	AT 1996-104783	19960326 <--
NO 9601281	A	19961002	NO 1996-1281	19960329 <--
JP 08283384	A2	19961029	JP 1996-77608	19960329 <--
CA 2173182	AA	19961002	CA 1996-2173182	19960401 <--
US 5847027	A	19981208	US 1996-625193	19960401 <--

PRIORITY APPLN. INFO.: DE 1995-19512316 A 19950401

AB Curing agents for epoxy resins consist of the reaction products of: (1) compds. that contain ≥2 1,2-epoxy groups, prepared as the reaction products of (a) compds. with ≥2 1,2-epoxy groups, (b) optionally with a mono-epoxide, and (c) ≥1 amine of general formula R1R2R3CNH2 [R1 is a branched or linear aliphatic, **cycloaliph**, arylaliph., or aromatic C1-30-hydrocarbyl (optionally substituted with OH, alkoxy, or halogen), R2 and R3 are H or R1], or polyoxyalkyleneamine, or diamine, (2) a cyclic carbonate, which is the reaction product of component (1) with CO2, (3) a cyclic carbonate, which is the reaction product of component (1) with a polyalkyleneamine and (optionally) a mono-epoxide, and CO2, (4) an addnl. epoxy compound not described above, (5) a polyamine with ≥2 secondary amino groups, and (6) optionally addnl. additives. Suitable reactants are chosen from bisphenol A- and bisphenol F-based epoxy resins, and propylene glycol diglycidyl ether (as typical epoxy components), with 2-aminobutane, 2-ethylhexyl amine, ethylenediamine, 2-methylpentanediamine, trimethylhexamethylenediamine, 2-aminoethylpiperazine, and m-xylylenediamine (as typical amines).

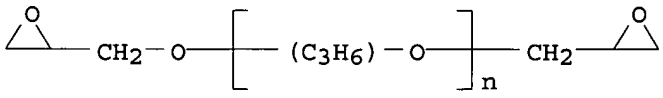
IT **183204-67-3P**
RL: **RCT (Reactant)**; SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(amine-epoxy-carbonate-based curing agents for elastic epoxy resin compns. containing)

RN 183204-67-3 HCAPLUS

CN 1,2-Ethanediamine, polymer with α-(oxiranylmethyl)-ω-(oxiranylmethoxy)poly[oxy(methyl-1,2-ethanediyl)] (9CI) (CA INDEX NAME)

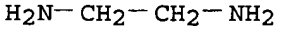
CM 1

CRN 26142-30-3
CMF (C3 H6 O)n C6 H10 O3
CCI IDS, PMS



CM 2

CRN 107-15-3
CMF C2 H8 N2



L24 ANSWER 9 OF 11 HCAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 1996:113338 HCAPLUS
DOCUMENT NUMBER: 124:205064

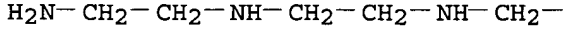
TITLE: Aqueous coating compositions containing epoxide crosslinkers
INVENTOR(S): Padget, John Christopher; Carey, John Gerard; Pears, David Alan
PATENT ASSIGNEE(S): Zeneca, Ltd., UK
SOURCE: PCT Int. Appl., 35 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 9531511	A1	19951123	WO 1995-GB1004	19950502 <--
W: AM, AT, AU, BB, BG, BR, BY, CA, CH, CN, CZ, DE, DK, EE, ES, FI, GB, GE, HU, IS, JP, KE, KG, KP, KR, KZ, LK, LR, LT, LU, LV, MD, MG, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, TJ, TM, TT				
RW: KE, MW, SD, SZ, UG, AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, ML, MR, NE, SN, TD, TG				
AU 9523494	A1	19951205	AU 1995-23494	19950502 <--
AU 699857	B2	19981217		
EP 759053	A1	19970226	EP 1995-917421	19950502 <--
EP 759053	B1	19990811		
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE				
BR 9507633	A	19970923	BR 1995-7633	19950502 <--
AT 183224	E	19990815	AT 1995-917421	19950502 <--
US 5674965	A	19971007	US 1995-440361	19950512 <--
PRIORITY APPLN. INFO.:			GB 1994-9525 A	19940512
			WO 1995-GB1004 W	19950502

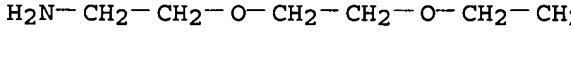
AB Aqueous compns. giving coatings with good mech. and phys. properties contain (a) a compound having >1 epoxide group and ≥1 N or 1 epoxide group, ≥1 N, and ≥1 hydrolyzable silyl group, and (b) ≥1 of a carboxy functional polymer, a hydroxy functional polymer, and a polymer having carboxy and hydroxy functionality. A typical composition contained equimol parts of (RCH2OCOCH2CH2)2N(CH2)4N(CH2CH2CO2CH2R) (R = 3,4-epoxycyclohexyl) and 43.5% solids 43.6:7.4:49 Bu acrylate-β-carboxyethyl acrylate-Me methacrylate copolymer emulsion.

IT **112-24-3 929-59-9**
RL: **RCT (Reactant)**; RACT (Reactant or reagent)
(crosslinker precursor; waterborne coatings containing amino epoxide crosslinkers)

RN 112-24-3 HCAPLUS
CN 1,2-Ethanediamine, N,N'-bis(2-aminoethyl)- (9CI) (CA INDEX NAME)



RN 929-59-9 HCAPLUS
CN Ethanamine, 2,2'-[1,2-ethanediylbis(oxy)]bis- (9CI) (CA INDEX NAME)

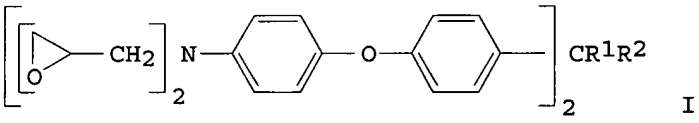


L24 ANSWER 10 OF 11 HCAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 1988:39088 HCAPLUS
DOCUMENT NUMBER: 108:39088
TITLE: Epoxy resins based on tetraglycidyl diamines and their use for epoxy systems and prepregs
INVENTOR(S): Hill Newman-Evans, Richard
PATENT ASSIGNEE(S): Union Carbide Corp., USA
SOURCE: Eur. Pat. Appl., 24 pp.
CODEN: EPXXDW
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
EP 239804	A1	19871007	EP 1987-102917	19870302 <--
EP 239804	B1	19890809		
R: DE, FR, GB, IT, NL, SE				
US 4721799	A	19880126	US 1986-835735	19860303 <--
CA 1281730	A1	19910319	CA 1987-530513	19870224 <--
JP 62265277	A2	19871118	JP 1987-45400	19870302 <--
US 4891408	A	19900102	US 1987-84883	19870813 <--

PRIORITY APPLN. INFO.: US 1986-835735 A 19860303
GI

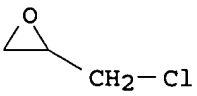


I

AB Compns., useful in manufacture of prepregs, structural adhesives, etc. with high tensile strength, good impact and moisture resistance, and dimensional stability, comprise tetraglycidyl ethers I (R1, R2 = H, C1-8 alkyl, perfluoroalkyl, C5-7 **cycloalkylidene**) and polyamine curing agents. Thus, 300.0 g 4,4'-bis(4,4-aminophenoxy)-2,2-diphenylpropane, 800 mL epichlorohydrin, 350 mL EtOH, and 50 mL H2O were mixed at reflux for 4 h to give 400 g I (R1, R2 = Me) (II). Heating 80.0 g the I and 42.0 g p-H2NC6H4CO2(CH2)3OCOC6H4NH2-p at 100° for 15-45 min, charging into a mold at 90°, and heat curing gave a cast molding with tensile strength 10 kN/cm2, tensile modulus 344 kN/cm2, elongation 5.0%, and water uptake 2.3% after soaking in 71.1° water for 1 wk, vs. 7.2, 279, 3.8, and 3.4, resp., for a composition containing Araldite MY 720 in place of II.

IT **106-89-8**, reactions
RL: **RCT (Reactant)**; RACT (Reactant or reagent)
(reaction of, with bis(aminophenoxyphenyl)propane)

RN 106-89-8 HCAPLUS
CN Oxirane, (chloromethyl)- (9CI) (CA INDEX NAME)



L24 ANSWER 11 OF 11 HCAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 1980:568847 HCAPLUS
DOCUMENT NUMBER: 93:168847
TITLE: Substituted derivatives of 11-aminoundeca-4,8 dienals and 11-aminoundecanals
INVENTOR(S): Reinehr, Dieter; Pfeifer, Josef
PATENT ASSIGNEE(S): Ciba-Geigy A.-G., Switz.
SOURCE: Eur. Pat. Appl., 35 pp.
CODEN: EPXXDW
DOCUMENT TYPE: Patent
LANGUAGE: German
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
EP 10520	A1	19800430	EP 1979-810122	19791012 <--
EP 10520	B1	19811216		
R: CH, DE, FR, GB, IT, NL				
US 4277621	A	19810707	US 1979-83140	19791009 <--
CA 1128522	A1	19820727	CA 1979-337701	19791016 <--
JP 55055151	A2	19800422	JP 1979-133666	19791018 <--
JP 63018575	B4	19880419		
US 4355177	A	19821019	US 1981-230081	19810130 <--

PRIORITY APPLN. INFO.: CH 1978-10769 A 19781018
US 1979-83140 A3 19791009

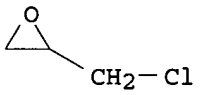
AB The title compds. are prepared by treating 1-aza-1,5,9-**cyclododecatriene** and 1-azacyclododecene derivs. with HONH2 and are hydrogenated to the corresponding diamines, which can be used for preparing transparent polyamides and as epoxy resin curing agents. Thus, 1,3-butadiene [106-99-0] was treated with N-(**cyclohexylmethylidene**)-N-(**cyclohexylidenemethyl**)amine [68544-39-8] in the presence of a Ni acetylacetonate-Ph3P-Et2AlOEt catalyst to give 3-pentamethylene-12-**cyclohexyl**-1-aza-1,5,9-**cyclododecatriene** [74926-73-1], which was hydrogenated to 3-pentamethylene-12-**cyclohexyl**-1-azacyclododecene [74926-74-2] and treated with HONH2.HCl to give 2-pentamethylene-11-**cyclohexyl**-11-aminoundecanal oxime (I) [74926-75-3]. I was hydrogenated in NH3-MeOH in the presence of Raney Ni to give 1-**cyclohexyl**-10-pentamethylene-1,11-diaminoundecane (II) [74926-72-0]. 4,4'-Diamino-3,3'-dimethyldicyclohexylmethane 2.156, isophthalic acid 1.502, and II-terephthalic acid nylon salt 8.535 g were precondensed 3 h at 270° under pressure and polycondensed 5 h at 280°, giving a clear polyamide [74931-34-3] which was molded into a film that had water absorption 1.2% weight at 65% relative humidity. The polymer had reduced viscosity 1.09 dL/g (0.5% in m-cresol, 25°), glass temperature 166°, and very good boiling water resistance.

IT **25068-38-6**
RL: **USES (Uses)**
(crosslinking agents for, in coatings, diaminoundecanes as)

RN 25068-38-6 HCAPLUS
CN Phenol, 4,4'-(1-methylethylidene)bis-, polymer with (chloromethyl)oxirane (9CI) (CA INDEX NAME)

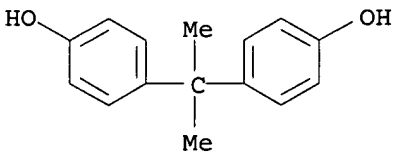
CM 1

CRN 106-89-8
CMF C3 H5 Cl O

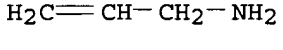


CM 2

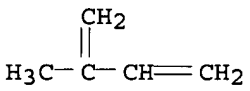
CRN 80-05-7
CMF C15 H16 O2



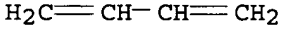
IT **107-11-9**
RL: **RCT (Reactant)**; RACT (Reactant or reagent)
(reaction of, with aldehydes and ketones)
RN 107-11-9 HCAPLUS
CN 2-Propen-1-amine (9CI) (CA INDEX NAME)



IT **78-79-5**, reactions
RL: **RCT (Reactant)**; RACT (Reactant or reagent)
(reaction of, with alkenyl(alkylidene) amines)
RN 78-79-5 HCAPLUS
CN 1,3-Butadiene, 2-methyl- (9CI) (CA INDEX NAME)



IT **106-99-0**, reactions
RL: **RCT (Reactant)**; RACT (Reactant or reagent)
(reaction of, with alkenyl(alkylidene)amines)
RN 106-99-0 HCAPLUS
CN 1,3-Butadiene (8CI, 9CI) (CA INDEX NAME)



=> => d stat que
L1 3266 SEA FILE=REGISTRY ABB=ON PLU=ON POLYAMINE OR METHANEDIAMINE OR ISOPHORONEDIAMINE OR DIAMINODICYCLOHEXYLMETHANE OR 'BIS(4-AMINO-3-METHYLCYCLOHEXYL)METHANE'?/CN OR AMINOMETHYLCYCLOHEXYLMETHANE OR AMINOMETHYLPIPERAZINE
L2 19 SEA FILE=REGISTRY ABB=ON PLU=ON NORBORNANEDIAMINE OR POLYCYCLOHEXYLPOLYAMINE OR POLYCYCLOHEXYL POLYAMINE/CN OR

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                'BIS(AMINOMETHYL)TRICYCLO'?/CN OR AMINOMETHYLTRICYCLO?
L3        241442 SEA FILE=REGISTRY ABB=ON  PLU=ON  ETHYLENE OR PROPYLENE OR
                 BUTENE
L4        271693 SEA FILE=REGISTRY ABB=ON  PLU=ON  BUTADIENE OR PENTENE OR
                 HEXENE OR HEPTENE OR OCTENE OR NONENE OR DECENE OR ISOBUTYLENE
                 OR CYCLOHEXENE OR CYCLOHEXADIENE OR STYRENE OR DIVINYLBENZENE
L5         71335 SEA FILE=HCAPLUS ABB=ON  PLU=ON  L1 OR POLYAMINE OR METHANEDIAM
                 INE OR ISOPHORONEDIAMINE OR DIAMINODICYCLOHEXYLMETHANE OR
                 4(W)AMINO(W)3(W)METHYLCYCLOHEXYL(W)METHANE OR AMINOMETHYLCYCLOH
                 EXYLMETHANE OR AMINOMETHYLPIPERAZINE
L6           166 SEA FILE=HCAPLUS ABB=ON  PLU=ON  L2 OR NORBORNANEDIAMINE OR
                 POLYCYCLOHEXYLPOLYAMINE OR AMINOMETHYL(W)TRICYCLO OR AMINOMETHY
                 LTRICYCLO?
L7       2044089 SEA FILE=HCAPLUS ABB=ON  PLU=ON  L3 OR ETHYLENE OR PROPYLENE
                 OR BUTENE
L8        922588 SEA FILE=HCAPLUS ABB=ON  PLU=ON  L4 OR BUTADIENE OR PENTENE OR
                 HEXENE OR HEPTENE OR OCTENE OR NONENE OR DECENE OR ISOBUTYLENE
                 OR CYCLOHEXENE OR CYCLOHEXADIENE OR STYRENE OR DIVINYLBENZENE
L9         36212 SEA FILE=HCAPLUS ABB=ON  PLU=ON  (L5 OR L6) AND (L7 OR L8)
L10          321 SEA FILE=HCAPLUS ABB=ON  PLU=ON  L9 AND ADDITION(2A)REACTION
L11           31 SEA FILE=HCAPLUS ABB=ON  PLU=ON  ("CURING AGENTS"/CV OR
                 "CROSSLINKING AGENTS"/CV OR "VULCANIZATION ACCELERATORS AND
                 AGENTS"/CV) AND L10
L12           44 SEA FILE=HCAPLUS ABB=ON  PLU=ON  L10 AND (CURING OR VULCANIZ?
                 OR CROSSLINK?)(L)AGENT
L13           44 SEA FILE=HCAPLUS ABB=ON  PLU=ON  L11 OR L12
L14          742 SEA FILE=REGISTRY ABB=ON  PLU=ON  EPOXY(L)RESIN
L15       174397 SEA FILE=HCAPLUS ABB=ON  PLU=ON  L14 OR EPOXY(5A)RESIN
L17        10687 SEA FILE=HCAPLUS ABB=ON  PLU=ON  (L5 OR L6)(L)PREP/RL
L18       465888 SEA FILE=HCAPLUS ABB=ON  PLU=ON  (L7 OR L8)(L)REACTANT/RL
L19         1942 SEA FILE=HCAPLUS ABB=ON  PLU=ON  L17 AND L18
L20       129007 SEA FILE=HCAPLUS ABB=ON  PLU=ON  L15(L)USES/RL
L21          119 SEA FILE=HCAPLUS ABB=ON  PLU=ON  L19 AND L20
L22           78 SEA FILE=HCAPLUS ABB=ON  PLU=ON  L21 AND PD=<SEPTEMBER 25,
                 2003
L23           77 SEA FILE=HCAPLUS ABB=ON  PLU=ON  L22 NOT L13
L24           11 SEA FILE=HCAPLUS ABB=ON  PLU=ON  L23 AND CYCLO?
L25            1 SEA FILE=HCAPLUS ABB=ON  PLU=ON  (L23 AND ADDITION(2A)REACTION)
                  NOT (L13 OR L24)


=> d ibib abs hitstr l25 1

L25  ANSWER 1 OF 1  HCAPLUS  COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER:         1997:538827  HCAPLUS
DOCUMENT NUMBER:          127:221329
TITLE:                    Poly(amido-imide)s based on amino-terminated
                          oligoimides
AUTHOR(S):                Patel, Hasmukh S.; Patel, Nilesh P.
CORPORATE SOURCE:         Department of Chemistry, Sardar Patel University,
                          Vallabh Vidyanager, 388 120, India
SOURCE:                   Polymers & Polymer Composites (1997), 5(3),
                          159-164
                          CODEN: PPOCEC; ISSN: 0967-3911
PUBLISHER:                Rapra Technology
DOCUMENT TYPE:            Journal
LANGUAGE:                 English
AB    An amino-terminated oligoimide was prepared by the Michael addition
      reaction of ethylene bismaleimide (EBM) and 4,4'-
      diaminodiphenylmethane (DDM) at an EBM:DDM molar ratio of 1:2.  The
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poly(amido-imide)s (PAI)s were prepared by condensation of this EBM:DDM oligoimide with various aliphatic bisesters. The resultant PAIs were characterized by elemental anal., IR spectral studies, and the number average mol. weight (.hivin.Mn) estimated by non-aqueous conductometric titration and thermogravimetry. The curing-reaction of an epoxy resin (a diglycidyl ether of bisphenol A (DGEBA)) with PAI was monitored by differential scanning calorimetry. Glass and carbon fiber reinforced laminates of PAI-epoxy resin were also prepared and characterized.

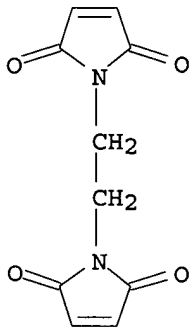
IT **194936-70-4P**, 4,4'-Diaminodiphenylmethane-diethyl oxalate-N,N'-ethylenebismaleimide copolymer **194936-71-5P**, 4,4'-Diaminodiphenylmethane-diethyl malonate-N,N'-ethylenebismaleimide copolymer **194936-72-6P**, 4,4'-Diaminodiphenylmethane-diethyl succinate-N,N'-ethylenebismaleimide copolymer **194936-73-7P**, 4,4'-Diaminodiphenylmethane-diethyl adipate-N,N'-ethylenebismaleimide copolymer **194936-74-8P**, 4,4'-Diaminodiphenylmethane-diethyl sebacate-N,N'-ethylenebismaleimide copolymer
RL: PEP (Physical, engineering or chemical process); **RCT (Reactant)**; SPN (Synthetic preparation); PREP (Preparation); PROC (Process); RACT (Reactant or reagent)
(preparation, characterization and crosslinking of poly(amido-imides) with epoxy resin)

RN 194936-70-4 HCAPLUS

CN Ethanedioic acid, diethyl ester, polymer with 1,1'-(1,2-ethanediyl)bis[1H-pyrrole-2,5-dione] and 4,4'-methylenebis[benzenamine] (9CI) (CA INDEX NAME)

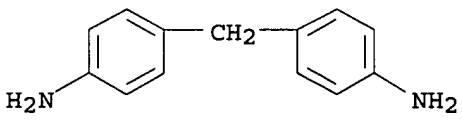
CM 1

CRN 5132-30-9
CMF C10 H8 N2 O4



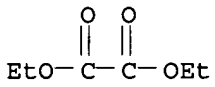
CM 2

CRN 101-77-9
CMF C13 H14 N2



CM 3

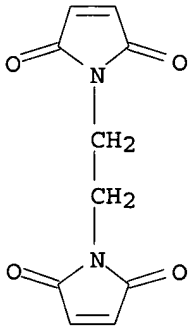
CRN 95-92-1
CMF C6 H10 O4



RN 194936-71-5 HCAPLUS
CN Propanedioic acid, diethyl ester, polymer with 1,1'-(1,2-ethanediyl)bis[1H-pyrrole-2,5-dione] and 4,4'-methylenebis[benzenamine] (9CI) (CA INDEX NAME)

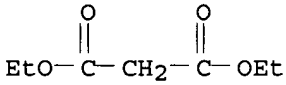
CM 1

CRN 5132-30-9
CMF C10 H8 N2 O4



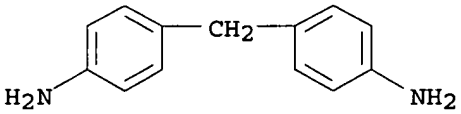
CM 2

CRN 105-53-3
CMF C7 H12 O4



CM 3

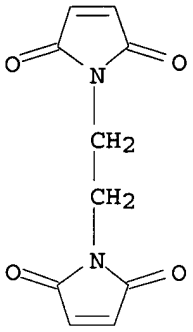
CRN 101-77-9
CMF C13 H14 N2



RN 194936-72-6 HCAPLUS
CN Butanedioic acid, diethyl ester, polymer with 1,1'-(1,2-ethanediyl)bis[1H-pyrrole-2,5-dione] and 4,4'-methylenebis[benzenamine] (9CI) (CA INDEX NAME)

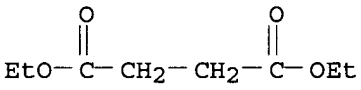
CM 1

CRN 5132-30-9
CMF C10 H8 N2 O4



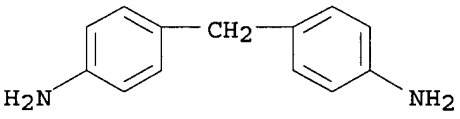
CM 2

CRN 123-25-1
CMF C8 H14 O4



CM 3

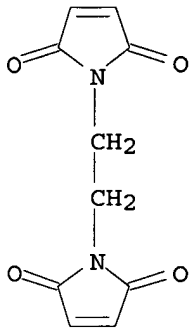
CRN 101-77-9
CMF C13 H14 N2



RN 194936-73-7 HCAPLUS
CN Hexanedioic acid, diethyl ester, polymer with 1,1'-(1,2-ethanediyl)bis[1H-pyrrole-2,5-dione] and 4,4'-methylenebis[benzenamine] (9CI) (CA INDEX NAME)

CM 1

CRN 5132-30-9
CMF C10 H8 N2 O4



CM 2

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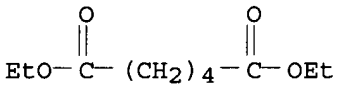
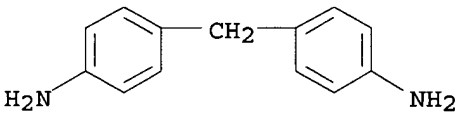


CM 3

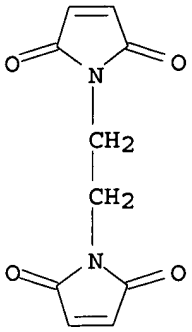
CRN 101-77-9
CMF C13 H14 N2



RN 194936-74-8 HCAPLUS
CN Decanedioic acid, diethyl ester, polymer with 1,1'-(1,2-ethanediyl)bis[1H-pyrrole-2,5-dione] and 4,4'-methylenebis[benzenamine] (9CI) (CA INDEX NAME)

CM 1

CRN 5132-30-9
CMF C10 H8 N2 O4



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CRN 110-40-7
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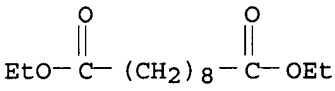
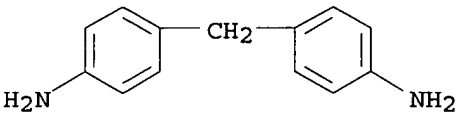


CM 3

CRN 101-77-9
CMF C13 H14 N2



REFERENCE COUNT: 19 THERE ARE 19 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

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